CHAPTER IV

FOREST MANAGEMENT DIRECTION

INTRODUCTION

This section of the Forest Plan outlines the direction for managing the Forest. This management direction includes:

Forest Management Principles and Goals - Multiple use goals used to develop the Forest Plan and the general philosophy to be followed during its implementation.

Desired Future Condition of the Forest - A description of what the Forest should look like at the end of 10 years and 50 years if the management direction is implemented.

Forest Management Objectives - The levels of goods and services which are anticipated as this plan is implemented.

Resource Summaries - Brief overview of the individual resource programs to be followed during implementation of this plan including areas of special emphasis or significant change from current management.

Forest-wide Standards and Guidelines - The bounds or constraints within which all management activities and practices will be implemented by this plan. These standards and guidelines are applicable to all management areas.

Management Area Prescriptions - Management direction, including goals, desired future condition and standards and guidelines, that are unique to each management area.

Management Principles

Forest Service programs are governed by hundreds of laws enacted during the past 100 years. Over 50 of these laws are considered major acts relating to Forest Service activities. Of these, three are generally recognized as providing the overall direction for National Forest management.

The Organic Act of 1897 led to the management of National Forests for "the greatest good for the greatest number in the long run." The Multiple-Use, Sustained-Yield Act of 1960 directed that National Forests be managed for a number of forest resources and in a manner that can be sustained in perpetuity. The National Forest Management Act of 1976 directed that the management of forest resources be integrated and consider overall ecosystem functions. Forest plans would be developed to guide integrated management on each National Forest.

Although the broad direction in these Acts seems clear, how to apply them in specific applications as management direction is sometimes confusing and complex. Conflicting and often intense public demands on limited forest resources adds to the uncertainty for National Forest managers.

Continuing public debate about the role of the National Forests and recognition that the demand for many resources approaches or exceeds supply, has characterized the environment in which this plan was developed. Being responsive to the public will be one of the greatest challenges for Forest managers in the future.

Due to the continuing conflict and scientific complexity facing public forest management, it is important to highlight the basic principles that establish the framework for land and resource management for the Willamette National Forest into the 1990s. Since changes in management technology, scientific knowledge and public demands will continue to occur, this framework must be flexible and dynamic to allow creative and innovative response to these changes. At the same time, these flexible principles provide sufficient certainty to lay a solid foundation for implementing this plan in the various situations Forest managers are likely to encounter.

Land Stewardship The Willamette National Forest is managed to conserve natural resources, promote long-term productivity and sustained yield, and enhance environmental quality. Commitment to long-term stewardship must be demonstrated by strong and visible sensitivity to the land in on-the-ground management activities.

Public Trust Managers of the Willamette National Forest are public servants and are charged to listen to and to provide for the public needs to the best of their ability. They will be open and forthright with the public in all matters. Regardless of the potential conflict and controversy, public interest in National Forest management is best served by active and informed public participation.

"Caring for the land and serving the people," the Forest Service mission statement, embodies these principles and provides a firm foundation for managing to meet the challenges that lie ahead.

Process and promises are not synonymous with land stewardship and public trust. The true test of these principles and of the Forest Plan will be how it is "written on the land." The collection of principles, goals, objectives, standards, and guidelines that are in this document are meaningless until implemented and the results evident in the quality of land stewardship practiced and the public trust gained during project implementation.

FOREST MANAGEMENT GOALS

Strategic Goals

Strategic goals provide the basic concepts for managing key features of the forest system and their relationships to the larger social and economic structures around it. They are written to provide a framework for balanced and integrated resource management designed to achieve the desired future condition of the Forest.

Diversity The Forest produces a wide diversity of plants and animals. While the vegetative productivity, as characterized by the growth and size of trees is well known, recognition of the healthy interrelationships among all resources within the forest ecosystem is paramount in future Forest management.

GOAL: Provide for plant and animal community diversity and ecological health as the foundation to sustain the long-term productivity of the forest.

Rivers Four major rivers, several other rivers, numerous feeder streams, creeks, and natural lakes combine to create a pattern of riparian networks throughout the Forest. These riparian networks are sensitive, high density areas, containing an abundance of wildlife habitat, plant habitat and human attractions. They are essential for the use, movement, and flow of people, plants, and animals throughout the Forest.

GOAL: Maintain the integrated ecological functions of rivers, streams, wetlands, lakes, and the associated riparian areas Forest-wide.

Travelways Four major highways, numerous feeder roads, and an accompanying system of trails combine to create a transportation network that provides human and vehicle access to a major portion of the Forest across a wide variety of Forest features and conditions. Recognition of significant scenic byways enhances the attractiveness of this transportation system.

GOAL: Provide visually pleasing and efficient access for the movement of people and materials involved in the use, protection and management of forest lands.

Old Growth The Forest contains a valued component of low to mid-elevation Douglas fir/western hemlock old-growth timber stands. Individual trees within these stands are attractive for a variety of purposes, including recreational, spiritual, and commodity uses. The stands command attention as an entity themselves: as unique systems that are biologically productive, variable in age and composition, but always dominated by very large and very old trees. These systems are not equaled in many other parts of the world. These stands characterize the Forest to many people.

GOAL: Provide for the many significant values associated with old-growth forests, including biological diversity, wildlife and fisheries habitat, recreation, aesthetics, soil productivity, water quality, and industrial raw material. Manage vegetation to maintain old-growth components, including structural characteristics and species diversity.

Community The term "community" is used in the broadest sense, recognizing the relationship of the Forest to geographical locations, social systems, interest groups, and individuals. These community interests reflect a variety of viewpoints: rural, urban, industrial, environmental, service, growth, and no-growth. Forest management culture is shaped by interaction with these diverse communities.

As past management of the Forest was shaped by a rich cultural and resource heritage, future management will be similarly shaped. A sense of community is key to managing the Forest through the transition of changing concepts and values.

GOAL: Recognize and respond to the socio-economic effects of management strategies. Recognize the public with all of its varied needs as partners and participants in managing the Forest through awareness, interaction, and communication.

Resource Management Goals

Management direction for the Forest was developed considering multiple-use goals for the integrated management of individual Forest resources. The goals presented below are broad in scope, and are

responsive to issues, concerns, and opportunities. They provide the bases for Forest management objectives and projected outputs of goods and services.

Water Resources

Maintain water quality through acceptable levels of water temperature, suspended sediment, chemicals, and bacteria.

Enhance the volume of water provided throughout the year by maintaining the carrying capacity of streams.

Maintain and enhance the ecological values in floodplains, wetlands, and riparian areas.

Wildlife, Fish, and Plants

Provide special habitat management considerations for threatened, endangered and sensitive wildlife, fish, and plant species.

Minimize the conflicts of human activities and occupancy with wildlife, fish, and plant habitats, including impacts of chemical use, road construction, recreation, and timber management activities.

Maintain habitat diversity to provide for a wide range of wildlife, fish, and plant species.

Facilitate the reproductive process of fish through enhancing the accessibility to, and condition of, spawning areas, and by maintaining hiding cover and food sources.

Recreation

Meet the goals and objectives of the National Recreation Strategy.

Provide a range and amount of dispersed recreation opportunities which is consistent with public demand for a variety of activities and settings.

Maintain and protect existing and potential recreation sites, consistent with public demand, through operation, maintenance, and rehabilitation activities.

Provide for distribution of a broad spectrum of developed recreation opportunities and experiences consistent with Forest use patterns and public demand.

Provide Forest visitors with opportunities to experience the important historical, cultural, and natural aspects of the Forest.

Provide for the protection, management and, where practicable, enhancement of the "outstandingly remarkable values" of designated Wild and Scenic Rivers.

Scenic Resources

Provide Forest visitors with visually appealing scenery, consistent with the type of Forest use and public demand.

Wilderness

Maintain a lasting system of quality Wilderness, recognizing public use and the unique characteristics of Wilderness.

Research

Promote research through identification of research needs.

Benefit from research information by maintaining a close, continuous relationship with scientists conducting research at the H.J. Andrews Experimental Forest.

Range/Livestock Grazing

Provide forage for domestic livestock, and facilitate use of the Forest's transitory range consistent with demand.

Timber Management

Provide a sustained yield of timber for commercial products.

Enhance the amount of timber provided in the future through increased growth rates and by reducing the loss from fire, insects, and disease.

Old Growth

Provide old-growth tree stands for their contribution to ecological and visual diversity, habitat for associated plant and wildlife species, maintenance of natural gene pools.

Minerals and Energy

Facilitate the exploration and development of mineral and energy resources where available on the Forest in a manner compatible with other resource values.

Economic

Produce Forest goods and services in the most cost efficient way consistent with maximizing net public benefits.

Generate revenues from permits, leases, user fees, and product receipts.

Human and Community

Promote area economic well-being by using Forest resources to generate revenues for local counties and providing direct or indirect employment opportunities.

Manage the recreational and scenic resources of the Forest in a manner that enables local communities to capitalize on the potential of these resources to contribute to economic well-being.

Provide opportunities for use of Forest resources by disadvantaged persons.

Provide equal opportunity to all persons regardless of race, color, creed, sex, marital status, age, handicap, religion, or national origin.

Coordinate planning activities with other federal agencies, State and local governments, Indian tribes, private landowners, and various community organizations.

DESIRED FUTURE CONDITION

FOREST IN TEN YEARS

Significant changes may be apparent in those areas where projects have been implemented to meet the Forest Plan goals and objectives, but the overall character and appearance of the Forest will change only slightly over the first decade.

Landscape View The appearance and patterns of vegetation across the Forest will be affected mostly by timber harvests with about 90,000 acres of mature stands harvested during the planning period. Most of the timber harvesting will occur in stands of mature and old growth timber between young stands that were harvested and regenerated in the prior years. When viewed from a distance at the landscape level the result will be larger expanses of young stands and fewer small stands of mature timber. Where relatively large acreages of contiguous mature stands existed at the beginning of the planning period, the landscape will appear more broken and fragmented by 40 to 60 acre harvest units such as in the inventoried roadless areas where timber harvest is allowed.

Other major features will also contribute to the overall texture of the landscape. The beginnings of a network of mature stands along perennial rivers and streams will become evident where harvesting has removed mature trees adjacent to the riparian area. Mature stands of 160 to 300 acres reserved for wildlife will be prominent as will the mature stands remaining on those lands unsuitable for timber management due to soil instability or regeneration difficulty. In many cases, the spatial arrangement of these mature stands will be contiguous with other mature stands in the drainage.

Stand Level View The coarseness of texture of the forest vegetation will also be evident when viewed at the subdrainage or individual stand level. Recently harvested stands will have a different appearance from those harvested prior to Forest Plan implementation due to the retention of a greater amount of both live and dead vegetation in managed stands. Live overstory trees, averaging 2 to 10 per acre, and varying numbers of dead trees will remain after the final harvest. The remaining trees will provide current and future habitat for primary cavity excavator species, contribute to the maintenance of long-term soil productivity and provide some of the structural components of mature stands within managed stands. Mature trees will also be evident within harvest units adjacent to Class IV streams with potentially unstable or moderately stable banks. Large pieces of down wood will be evident in many harvest units.

Old Growth Some old-growth stands will not be harvested during the planning period. The largest, contiguous blocks will continue to be in Wilderness. Stands varying from more than a thousand to ten acres in size will remain intact in no-harvest management areas such as nonmotorized dispersed recreation, Research Natural Areas, Special Interest Areas, designated Old-Growth Groves, and areas designated as habitat for spotted owls, pileated woodpeckers and martens. Blocks of several hundred

acres will also remain within the general forest allocations with largest, contiguous acreages occurring in those unroaded areas allocated to general forest.

Rivers In addition to retaining mature trees adjacent to streams and lakes, enhancement projects will add large woody debris in some waterways to mitigate the losses of sources for natural recruitment of large wood as a result of previous management activities. Projects will provide diverse stands of hardwoods and conifers in previously harvested riparian areas.

Visual and recreational values will be maintained or enhanced along rivers designated as Wild and Scenic Rivers and in the corridors adjacent to rivers identified as eligible for Wild and Scenic designation in the Forest Plan. The combination of Wild and Scenic designations, visual management objectives, riparian protection and recreation uses along the rivers will result in a network of rivers and streams that retain and enhance their natural appearance and ecological function.

Travelways Approximately 400 miles of new roads will be constructed, primarily to provide access for timber harvests. Some of these roads will enter several hundred acre blocks of mature stands within general forest allocations, while other roads built will be short spur roads or extensions of existing roads in currently roaded areas. Design and construction techniques will be employed to make these roads lay easy on the land, reducing the potential soil erosion and mass movement. In addition, 1,740 miles of road will be reconstructed in conjunction with timber harvests and recreation management. In some cases, the reconstruction projects will correct or alleviate erosion and road stability problems and provide for safe public access. Various roads, generally local and collector roads, will have restricted access to enhance wildlife habitat or to protect soil and water values.

Scenic quality will be maintained and enhanced along approximately 385 miles of Forest Service, county, state and federal highways that cross the forest. Two roads, Aufderheide Memorial Drive and the McKenzie Pass-Santiam Pass Loop are designated Scenic Byways and the recreational aspect of travel along these routes will be emphasized.

Wildlife Diversity Habitats for species dependent on mature and old-growth stands will be provided primarily in areas not allocated to timber management. Some suitable habitats will remain in general forest allocations, although they will generally be smaller and more isolated than areas withdrawn from harvest.

The acres of suitable habitat and the number of identified sites for bald eagles and peregrine falcons will exceed the levels in the recovery plans for these species. Habitat for other threatened, sensitive, and endangered species will meet or exceed levels needed to maintain or promote recovery of the species.

Elk habitat will be improved or maintained in areas managed for a high emphasis objective for big game. Forage enhancement projects, well distributed mature conifer stands for optimal cover, and controlled road access in the winter ranges will be evident in the high emphasis areas. The basic habitat components of forage and cover will be provided in areas with moderate or low emphasis objectives also, but in lesser quantity, distribution and quality.

Recreation Dispersed recreation opportunities will have been enhanced by 60 miles of new trail and an intensive annual maintenance program. These trails traverse a variety of land allocations across the Forest, with increased miles available in lower elevations.

About 145,000 acres of the roadless area inventory will remain unroaded after 10 years.

Wilderness use will continue to grow. Areas with high user impacts will be protected from degradation or rehabilitated as necessary through a combination of site recovery projects, user education and user management.

Additional opportunities for interpretation and public use of areas with exceptional scenic, cultural, biological or geological characteristics will be provided by the 46 Special Interest Areas and 34 Old-Growth Groves identified in the Forest Plan. Each area will be managed to maintain its unique qualities and provide for public education and enjoyment.

Nine Research Natural Areas could be available for scientific use, including five that are recommended for designation in the Forest Plan.

Communities The Forest will take advantage of opportunities to enhance the vitality of surrounding communities by applying a new focus to look and work beyond the traditional boundaries. This focus will reaffirm and emphasize working with other government agencies, local businesses, and the communities themselves in the spirit of interdependence and cooperation that has always existed at the local Ranger District level. Communication, cooperation, and partnerships between the Forest and local citizens will be fostered and enhanced.

FOREST IN FIFTY YEARS

The Forest Plan, by law, must be revised at least every 10 to 15 years. If the direction in this Plan were continued, unchanged over the next 50 years, however, many changes would be readily apparent.

Landscape View The forest will present a contrast of age classes, including large blocks of mature and older stands of trees in areas deferred from timber harvesting interspersed with managed stands 0 to 90 years old. Although some of the texture and mosaic of mature stands and varying ages of managed stands at the landscape level that existed after the first 10 years will still exist, the acres of mature stands in the general forest will have decreased by about 450,000 acres Within areas available for timber harvest, natural, mature stands will appear as isolated patches or linear corridors mostly in areas with extended rotations such as visually sensitive areas or land that is unsuitable for timber management. Harvest units of 40 to 60 acres will be evident in areas where the predominant stand age is 60 to 90 years old.

The network of natural, mature stands along rivers and steams and in areas maintained for wildlife habitat will be readily apparent, although in some cases, the retention of large trees in 40 to 50 year managed stands will soften the contrast between the natural and the managed stands. Gaps in the network of mature, natural stands along the rivers and streams will be less apparent as reforestation projects mature.

Stand Level View Visible differences in managed stands created before implementation of the Forest Plan and those created after its implementation will be less apparent than at 10 years. Most of the general forest will consist of trees 0 to 90 years old. Although the size of the regenerated trees at 50 to 60 years will tend to reduce the visual impact of the increased retention of live and dead vegetation within harvested stands, the ecological functioning of these stands may be significantly different. The retention of some live and dead vegetation will be apparent in recently harvested units.

Old Growth All of the natural, mature and old-growth stands within no-harvest allocations will still exist in essentially the same condition as they were at the beginning of Plan implementation. It is possible, however, that unpredictable events such as wildfires, windstorms or insect epidemics may have changed the appearance in some of these areas. Few old-growth stands will remain in areas managed for timber production except in visually sensitive areas along highways and major river corridors.

Rivers Water quality will be high. Most of the stream segments on the Forest will have a natural appearance and improved channel conditions as a result of natural input of woody debris and steam enhancement projects. On a broader scale, all of the river and stream systems on the Forest will have a natural appearance and a stable, functioning ecosystem.

The implementation of rehabilitation and improvement projects will result in increased populations of resident fish and increased habitat capacity for anadromous species.

Travelways The road system needed for resource management and protection, completed at approximately 7,200 miles, will appear mature and more stable as vegetation is established on areas of exposed soil. Reductions in new construction and reconstruction or closure and restoration of roads with stability problems will reduce the amount of erosion and soil movement. Many roads will be maintained for timber harvest and public access, while others will be closed during certain times of the year or for certain uses to enhance wildlife habitat and to protect soil and water resource values.

Visual corridors along major highways, some Forest roads and rivers will appear natural or near natural. Small openings and younger stands of trees may be apparent in some areas as a result of timber harvesting, although the retention of 10 green overstory trees in harvest units will create a varied texture.

Wildlife Diversity Populations of species dependent on mature and old-growth habitats will be lower, but will be stable and remain above viable levels. Habitat for these species will exist primarily in areas withdrawn from timber harvest, in Wilderness and possibly some in long rotation management areas such as visual corridors.

Populations of threatened, endangered, or sensitive species will be above the levels necessary for viability and habitat will be available to maintain these populations.

Elk habitat quality will be lower in moderate and low emphasis areas, but will remain at or above the objective levels. Habitat in high emphasis areas will be capable of supporting larger, stable population levels.

Recreation Demand for recreation will be higher. Construction of additional developed recreation sites will provide increased opportunities for developed recreation activities.

About 92,000 acres of the roadless area inventory will remain unroaded after 50 years. Other areas that were unroaded at the beginning of Plan implementation will be roaded.

Primitive and semiprimitive recreation opportunities will be limited to Wilderness and areas withdrawn from harvest. In Wildernesses, high use areas will be returned to a more primitive condition.

Community Each community will have capitalized on its uniqueness and involved its citizens in the development of a desired future. Forest activities will continue to support the goals and plans of resource-dependent communities.

FOREST MANAGEMENT OBJECTIVES

Objectives are the activities and outputs expected to achieve the Forest management goals and its desired future condition. The average annual levels of goods and services to be produced or made available for use on the Forest are summarized in Table IV-1. The annual funding levels necessary to supply the estimated outputs are also included in this table. The individual resource programs and the types of activities that may be implemented to produce the objectives listed in Table IV-I are briefly explained in the next section of this chapter, Resource Summaries.

The annual schedule of outputs are not promises, but best estimates based on available inventory data and assumptions, subject to the annual budget. For example, the ASQ in the Forest Plan is the maximum amount of chargeable timber volume which may be sold in a decade, subject to the broad discretion of the Forest Service to sell timber as part of the multiple-use concept. In the event it becomes impossible to produce the mix of outputs and services as shown in this Plan, it is subject to change through amendment and revision as discussed in Chapter V.

Table IV-1. Average Annual Resource Outputs, Effects, Activities, and Costs

		Decade				
Output, Effect, Activity, or Cost	**Unit of Measure**	**1**	**2**	**3**	**4**	**5**
Developed Recreation Use	MRVDs	2,056	2,953	3,000	3,000	3,073
Nonwilderness Dispersed Recreation Use						
Semiprimitive Nonmotorized Use	MRVDs	52	52	52	52	52
Semiprimitive Motorized Use	MRVDs	64	76	76	76	76
Roaded Natural Use	MRVDs	1,278	1,880	2,100	2,200	2,310
Roaded Modified Use	MRVDs	376	553	627	719	839
Wilderness Recreation Use	MRVDs	342	342	342	342	342
Trail Construction	Miles	6.0	0.0	0.0	0.0	0.0
Trail Reconstruction	Miles	72	72	72	72	72
Developed Site Construction	PAOT	327	56	--	--	25
Developed Site Reconstruction	PAOT	844	953	---	---	1014
Visual Quality Objectives Allocations						
Preservation	M Acres	591.1				
Retention	M Acres	118.8				
Partial Retention	M Acres	171.7				
Modification	M Acres	143.0				
Maximum Modification	M Acres	650.8				
Unroaded Areas Assigned to Roaded Rx but Still Unroaded After First Decade.	M Acres	52.7	30.6	---	---	0
Unroaded Areas Assigned to Unroaded Rx	M Acres	92.1	92.1	92.1	92.1	92.1

Table IV-1 Cont. Average Annual Resource Outputs, Effects, Activities, and Costs

Output, Effect, Activity, or Cost	Unit of Measure	Decade				
		1	2	3	4	5
Big-Game Use	MWFUDs	145.0	177.O	--	--	168.0
Other Wildlife Use	MWFUDs	941.0	1,153.0	--	--	1,094.0
Anadromous Fish Use	MWFUDs	100.0	123.0	140.0	159.0	180.0
Resident Fish Use	MWFUDs	105.0	127.0	144.0	162.0	182.0
Spotted Owl Habitat Areas (Dedicated Sites)	Areas[1]	59	59	59	59	59
Bald Eagle (Protected Sites)	Sites[1]	24	24	24	24	24
Pileated Woodpeckers (Dedicated Sites)	Areas[1]	97	97	97	97	97
Marten (Dedicated Sites)	Areas[1]	100	100	100	100	100
Elk	PTI[2]	1.3	1.6	1.6	1.5	1.5
Deer	PTI[2]	1.4	1.7	1.7	1.6	1.6
Primary Cavity Excavators on Lands Suitable for Timber Harvest	%/bio-pot	40	40	40	40	40
Livestock Grazing Use	AUMs	200.0	200.0	200.0	200.0	200.0
Timber Sale Program Quantity (gross)[3]	MMBF	604				
Timber Sale Program Quantity (gross)[3]	MMCF	107.0	107.0	107.0	104.0	98.0
Allowable Sale Quantity (net)[4]	MMBF	491				
Allowable Sale Quantity (net)[4]	MMCF	87.0	87.0	87.0	87.0	87.0
Firewood[5]	M Cords	42.4	42.4	--	--	25.0
Reforestation	M Acres	9.1	9.4	8.0	8.0	8.1
Timber Stand Improvement[6]	M Acres	18.1	17.7	16.7	16.7	17.8
Long-Term Sustained Yield	MMCF	94.7				
Timber Growth	MMCF	46.9	61.7	66.5	79.3	88.9
Water Yield	M Ac-Ft	8,895.0	8,895.0	8,895.0	8,895.0	8,895.0
Erosion (Debris Slides)	M Cu.Yds/Yr	34.0	15.5	12.4	11.9	11.6
Improved Watershed Condition	Acres	533.0	540.0	---	---	444.0
Old-Growth at End of Decade	M Acres	533.4	479.1	432.5	391.5	365.2
Road Construction	Miles	40	7	6	5	2
Road Reconstruction	Miles	174	171	171	171	171

Table IV-1 Cont. Average Annual Resource Outputs, Effects, Activities, and Costs

Output, Effect, Activity, or Cost	Unit of Measure	Decade				
		1	2	3	4	5
Roads Suitable for Public Use						
Passenger Car	Miles	1,580	1,585	1,585	1,585	1,585
High Clearance Vehicles Only	Miles	4,530	4,550	4,570	4,570	4,570
Roads Closed	Miles	890	935	--	--	1,045
Available for Mineral Exploration	M Acres	1,082	1,082	1,082	1,082	1,082
Tentatively Scheduled Timber Harvest						
Clearcut	M Acres	9.1	9.4	8.0	8.0	8.1
Commercial Thin	M Acres	2.8	2.1	7.6	6.5	6.8
Lands Tentatively Suitable for Timber Production	M Acres	1,032.1				
Lands Suitable for Timber Production	M Acres	774.6				
Timber Yield on Suitable Lands						
Full Yield (95-100%)	M Acres	689.2				
75-94% of Full Yield	M Acres	42.9				
50-74% of Full Yield	M Acres	42.5				
1-49% of Full Yield	M Acres	0.0				
Fuel Treatment	M Acres	9.1	9.4	8.0	8.0	8.1
Total Budget (1982 base year $)	Million $	49.2	46.2	--	--	45.2
Returns to Government	Million $	101.2	108.0	--	--	117.6
Payments to Counties	Million $	25.3	27.0	--	--	29.4
Present Net Value - 15 Decades	Million $	2,858				
Changes to Jobs (Historic level = 12,187)	Number	+204[1]				
Changes in Income (1977 $ - Historic level = 238.5)	Million $[1]	-5.6				

[1]For total planning period, not annually.
[2]Population Trend Index (PTI); trend values compared to a current level of 1.0, values reflect effects of habitat improvement.
[3]Includes net green volume plus salvage, cull, unregulated, and miscellaneous convertible products.
[4]Includes only live, sound wood.
[5]Historically the firewood supply has come from a portion of the cull material, and is included in the Timber Sale Program Quantity above.
[6]TSI includes release from competing vegetation, precommercial thinning, and fertilization.
MRVDs = Thousands of Recreation Visitor Days
PAOT = Persons at One Time
M Acres = Thousand Acres
MWFUDs = Thousands of Wildlife and Fish User Days
%/bio-pot = Percent of Bio-potential
AUMs = Animal Unit Months
MMBF = Million Board Feet
MMCF = Million Cubic Feet
M Ac-Ft = Thousand Acre-Feet
M Cu. Yds/Yr = Cubic Yards per Year

RESOURCE SUMMARIES

This section contains supplementary narrative information regarding resource objectives, outputs and schedules of planned activities. These resource summaries, augmented by detailed resource schedules, are the basis for developing the Forest's annual program of work and subsequent budget.

Soil and Water

The soil and water program is designed to meet the Forest's goals of providing quality water, maintaining fish habitat and riparian ecosystem functions, and enhancing soil productivity. Management of soil and water is focused on coordination with all management activities to ensure protection and enhancement of watershed values. Monitoring efforts will focus on evaluating whether or not implementation of the Forest Plan is producing the desired water quality and stream condition, as well as verifying the cumulative effects assessment.

The Willamette National Forest Soils Resource Inventory (Legard and Meyer 1973) serves as a source document for program and project planning. It is supplemented and supported by existing technical expertise. Programs and projects involving the soil resource will be evaluated in terms of the existing productive capacity and the anticipated changes to productivity if the proposed program or project is carried out. Objectives for ground-disturbing projects are to prevent significant changes to soil productivity and to mitigate or restore degraded soils to the conditions that existed prior to the management activity if preventive measures cannot be applied during the project.

The principal focus of the soil and water program is to minimize the effects of land management activities. Through the application of the Forest-wide standards and guidelines (S&Gs), management area prescriptions, and Best Management Practices, water quality is intended to be in compliance with standards for the State of Oregon. Watersheds with the greatest risk of experiencing effects on water resources will receive the most conservative blend of protective measures.

The process of minimizing the effects of land management activities begins at the watershed level, with the scheduling of harvest and road construction in the 10-Year Action Plan. On a Ranger District basis, the sensitivity of subdrainages will determine the amount of timber harvest throughout the decade. Professional knowledge of current conditions, relative sensitivity and hydrologic recovery will be used to minimize the risk of negative consequences, by dispersing harvest activities where possible, to the subdrainages in the best condition. In some instances, subdrainages will be scheduled for minimal harvest entry, for the express reason of collecting Knutson-Vandenberg funds (generated from timber sale receipts) for the purpose of rehabilitating and improving problem areas.

Planning at the subdrainage or project level is the most appropriate for a focused cumulative effects analysis and site-specific design of mitigation measures and Best Management Practices. The scope and intensity of the subdrainage cumulative effects analysis will be predicated on the current condition and subdrainage sensitivity. The attributes and relative sensitivity of areas within the subdrainages will be analyzed for cumulative or direct effects from past management and projected to options for future management, based on the most current knowledge, management direction, and desired condition of aquatic resources. The risk of increasing peak streamflow and channel instability will be analyzed using the hydrologic recovery slope stability concepts. Through the use of an interdisciplinary process, trade-offs between management options and relative risk of effects will be assessed. As a result, a site-specific reasoned decision which best meets multiple-use goals and mitigates or avoids direct or cumulative effects will be implemented.

An integral part of the soil and water program is the rehabilitation or improvement of road stability, soil productivity, water quality, and stream channel stability. Projects will be implemented if flood or fire damage occur, if protective measures fail, or if opportunities for improvement are present. The amount of work accomplished will be dependent upon funding availability as well as the occurrence of catastrophic flood events.

Fire/Fuels

A full fire prevention program will be implemented and high use areas will be patrolled on Precaution Class II and higher days and peak use periods. Four primary (including Warner Mountain) and three emergency lookouts will be staffed. Aerial detection on Precaution Class II and higher days and after lightning storms, will be provided. An initial attack program which emphasizes cost-effective presuppression and suppression while minimizing resource loss will be provided.

Logging residue will be utilized for multiple purposes including fuelwood and other commercial products while achieving reforestation and air quality objectives. Prescribed burning will be limited to times and sites which will not impact high use areas of the Forest and population centers adjacent to the Forest. All prescribed burning will be performed in compliance with the State of Oregon Smoke Management Plan, State of Oregon Implementation Plan for the requirements of the Clean Air Act, and the USDA--Forest Service Pacific Northwest Regional Guide.

Fish and Wildlife

Table IV-2 summarizes habitat improvement activities of the Forest Plan.

Table IV-2. Fish and Wildlife Habitat Improvements

Species	Unit of Measure	Amount
Deer and Elk	Acres	51,300[1]
Primary Cavity Excavators	Trees	13,000
Wildlife Structures	Structure	4,510
Bald Eagle/Peregrine Falcon	Sites	50
Anadromous Fish	Stream Miles	60
Resident Trout	Acres	1,450

[1]Includes prescribed fire as enhancement activity.

Implementation of the Forest Plan provides for an increase in the number of catchable trout and an increase in anadromous fish habitat capability as shown in Table IV-3. The smolt habitat capability index used to project the increases was based on the best available information. Stream habitat surveys will be conducted on all anadromous fish-bearing streams on the Forest to provide new and better information for fish management activities. The smolt habitat capability index will be revised, based on rearing habitat capability and density coefficients derived from the site specific studies or rearing habitat capability and density coefficients agreed to by fisheries and land management agencies within

the Columbia Basin. Planned increases in fish production during the first decade are provided through application of S&Gs for soil, water, and riparian habitat, and direct improvement projects.

Table IV-3. Smolt Habitat Capability Index

	Smolt Produced[1]
Existing Habitat	438
Potential Habitat	569
Total	1,007

[1]Coefficients described in *Anadromous Fish Planning Coefficients, 1920 memo, May 1, 1987.* Index is thousands of smolts.

The Forest Plan provides dedicated areas of mature and old-growth tree habitat to ensure maintenance of viable populations of selected management indicator species, surrogates for a diversity of species dependent on old-growth habitat. In addition to dedication of habitat areas, management coordination with other resources, especially timber, recreation, fish, fire and fuels management, and road development, is undertaken to maintain or improve conditions of these areas. The Forest-wide S&Gs and the management area prescriptions provide the basis for coordination among Forest resources.

This Plan dedicates suitable habitat areas of mature and old-growth timber to sustain the Management Requirement (MR) level of 60 verified pairs of spotted owl and provides suitable habitat for an additional 35 verified pairs within several no-harvest management areas. Habitat provided for pine marten and pileated woodpecker during the Plan period includes 100 and 38 areas respectively, in addition to habitat shared with the spotted owl. Primary cavity excavators, a group of wildlife species dependent on dead and defective trees, are maintained by providing 1.6 hard snags per acre in all conifer types by successional stages. This action is expected to maintain populations of primary cavity excavators at 40% of their biological potential Forest-wide. Table IV-4 is a summary of wildlife habitats to be maintained during the Plan period.

The effectiveness of big-game habitat will be affected during the Plan period, through adjustments of the Forest's existing cover/forage ratio. Emphasis is placed on management of cover quality, forage quality, and open road density to improve the conditions and quality of big-game habitat. With major areas of the Forest managed to maintain relatively high levels of habitat effectiveness for deer and elk populations are planned to increase.

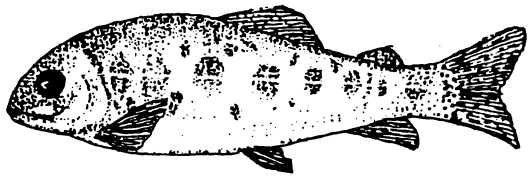


Table IV-4. Summary of Wildlife Habitats

HABITATS				
Old Growth	**Dedicated Habitat Acres[1]**			
Management Indicator Species	**Acres Suitable for Harvest**	**Acres Unsuitable for Harvest and Withdrawn**	**Total Forest-wide**	**Number of Dedicated Sites Explicitly for Each MIS**
Spotted Owl	69,045	17,581	86,626	59
Pileated Woodpecker	8,318	3,668	11,986	38
Marten	13,587	3,178	16,765	100

Threatened and Endangered	**Habitat Acres**			**Number of Habitat Sites**		
Management Indicator Species	**Dedicated Existing Use[2]**	**Potential Use[3]**	**Total**	**Existing[2]**	**Potential[3]**	**Total**
Bald Eagle	1,472	2,500	3,972	4	20	24

Winter Range	**Available Habitat Acres[4]**		
Management Indicator Species	**Optimal Cover**	**Total Winter Range**	**Percent Optimal Cover[5]**
Deer and Elk	269,950	624,740	43%

Dead and Decaying	**Percent Biological Potential**	
Management Indicator Species	**Based on Suited Acres for Harvest**	**Based on Total Acres Forest-wide**
Primary Cavity Excavators	40	45

[1]Acres adjusted due to minimum mapping resolution of 21.3 acres.
[2]Roosting, foraging, and nesting habitat identified in Bald Eagle Mgmt. Plans
[3]Potential nest sites identified around key feeding area and existing nest sites without management plans complete.
[4]Habitat provided at beginning of first decade
[5]Based on a Forest-wide average; individual subdrainages will provided varying amounts of optimal cover.

This Plan also establishes special fish and wildlife related habitat areas for selected species and uses. A special habitat management plan that provides detailed direction or management requirements specific to the wildlife species of concern will be prepared for each habitat area. Approximately 85 special habitat areas totalling over 31,555 acres are established by this Plan and will provide a broad spectrum of habitats including meadows, elk wallows, cliffs and talus.

Threatened and Endangered Species

The bald eagle and peregrine falcon are Federally-listed threatened and endangered species found on this Forest. The bald eagle requires forested habitat containing old-growth conifer trees for nesting located in close proximity to available food sources. The peregrine falcon requires rock cliffs containing ledges for nesting and abundant populations of prey species.

Recommendations received from the USDI Fish and Wildlife Service (USFWS) as a result of informal consultation have been incorporated into this Plan.

Bald eagle habitat is provided by land allocations in three MAs and by Forest-wide S&Gs. Protecting habitat for the bald eagle is accomplished by prohibiting habitat alterations, restricting access, and limiting disruptive influences from adjacent areas. Active bald eagle territories (MA 8) shall have site specific management plans prepared in cooperation with the USFWS and Oregon Department of Fish and Wildlife (ODFW). Potential roost sites and foraging perches will be protected by land allocations specific to MA 10f (Lakeside areas) and MA 15 (Riparian).

The 7 known active bald eagle nest sites and 18 potential sites will be protected during the Plan period. Forest Plan direction, as well as providing for the care and maintenance of currently used habitats, requires that utilized habitat discovered during the life of the Plan shall be managed in accord with S&Gs applicable to presently active habitat.

Forest-wide S&Gs provide direction for protection and conservation of peregrine falcons. One active nest site has been documented on the Forest. A site specifec management plan will be prepared in cooperation with the USFWS and ODFW. Twelve additional sites with high potential have been identified and will be protected under S&Gs for MA 9d (special wildlife habitat).

There are no Federally-listed threatened or endangered plant species known to be present in the Forest. Sensitive species are those plant species for which viability is a concern. A listing of sensitive plants is maintained by the Regional Forester and is updated periodically. If a listed plant is found to occur a determination is made as to the extent of the population so as to analyze potential impacts of the proposed project and develop mitigation measures to avoid any adverse consequences.

Forest-wide S&Gs require preparation of site specific biological evaluations for activities having the potential to impact proposed, endangered, threatened, or sensitive plant and animal species.

Monitoring plans (Chapter V) have been revised to include productivity and population surveys for bald eagles, peregrine falcons, and other sensitive species. Monitoring will address the implementation and effectiveness of Forest direction for the conservation of proposed, endangered, threatened, and sensitive plant and animal species.

Cultural Resources

Cultural resource inventory and evaluation, according to established prescriptions and consultation procedures, will precede all ground-disturbing projects. Appropriate historic preservation laws, regulations and policies, in addition to the Forest-wide S&Gs will direct future management decisions regarding cultural resources.

In managing cultural resources, emphasis will be placed on conducting inventories of site areas of proposed ground disturbing projects on a stratified basis. In addition to updating the Forest's cultural

resources overview, efforts will be employed to ensure the rights of Native Americans to practice their traditional religion. Interpretation of cultural sites and public awareness efforts will be continued for the life of this Plan at existing levels. Table IV-5 summarizes specific cultural resource program actions to be taken during the course of Plan implementation.

Table IV-5. Projected Cultural Resource Program

		Plan Period in Years									
Activity	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Inventory Area	M Acres										
Project		61	58	54	64	53	58	58	56	60	58
Non-Project Related		6	6	6	6	6	6	6	6	6	6
Inventory Sites	Sites	88	84	76	92	78	84	84	82	86	84
Evaluations	Sites	20	20	19	18	21	18	19	19	20	19
Data Recoveries	Sites	1	1	2	1	1	1	1	1	1	1
Management Plans	Plans	1	1	1	1	1	1	1	1	1	1
Overview Updates	Number	--	--	--	--	1	--	--	--	--	1

Recreation

A broad range of recreation opportunities is provided, ranging from semiprimitive dispersed areas to highly developed facilities.

Developed Sites All existing developed sites are maintained for public use. Current capacity for both publicly and privately managed sites will be expanded during the life of this Plan. All new sites, current fee sites, and high use non-fee sites will be operated and maintained for optimum levels of public use at a standard service level. Operation and maintenance of all other publicly managed sites will be provided at a less than standard service level. Table IV-6 is a summary of existing and proposed developed sites provided for public use during the effective period of this Plan.

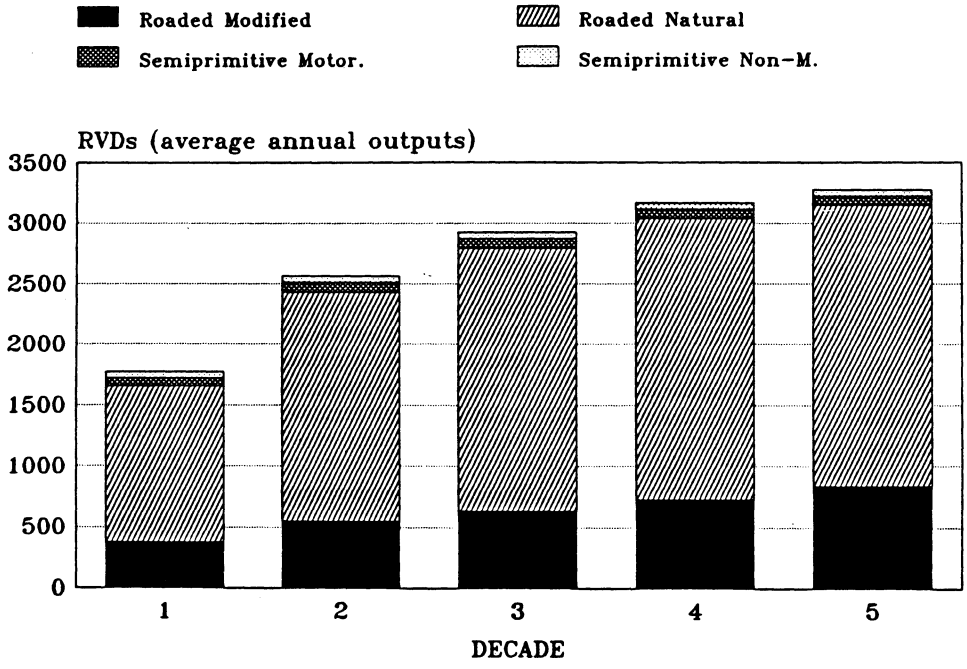
Table IV-6. Developed Recreation Sites

Management Sector	Existing Sites	New Sites	Total Sites
Public			
Number of Sites	174[1]	25	199
Private[2]			
Number of Sites	30	5	35
Total Number of Sites	204	31	235

[1]Managed season is equal to 108 days.
[2]Areas provided for private development.

Dispersed Areas A full range of dispersed recreation opportunities is provided during the Plan period. Semiprimitive recreation use, as inventoried under the Recreation Opportunity Spectrum (ROS), is available from 121,816 acres of Forest land: 85,768 acres nonmotorized, and 36,048 acres motorized. Figure IV-1 illustrates the estimated average annual visitor day outputs for dispersed recreation opportunities over a five decade period.

Figure IV-1. Dispersed Recreation Opportunities and Outputs



		RVDs by Decade[1]				
ROS Class	**Acres Allocated**	**1**	**2**	**3**	**4**	**5**
Semiprimitive Nonmotorized	85,768	51.8	51.8	51.8	51.8	51.8
Semiprimitive Motorized	36,048	64.0	76.3	76.3	76.3	76.3
Roaded Natural	378,991	1,278.4	1,879.8	2,160.2	2,309.0	2,309.8
Roaded Modified	793,775	376.5	553.0	635.5	730.3	839.2
TOTAL		1,770.7	2,560.9	2,923.8	3,168.2	3,277.1

[1]Average Annual Outputs.

Semiprimitive recreation experience opportunities provided by this Plan may be obtained from numerous areas within the Forest. Table IV-7 is a listing of areas established to provide for both motorized and nonmotorized dispersed recreation use opportunities. Roaded Natural and Roaded Modified recreation experience opportunities are also available throughout the Forest as provided from a wide array of management areas.

Table IV-7. Designated Semiprimitive Recreation Areas

Area Name	District	Recreation Opportunity Type	Acres
Henline Mountain	Detroit	Semiprimitive Nonmotorized	6,236
Bachelor Mountain	Detroit	Semiprimitive Motorized W/Harvest	2,716
Big Meadows	Detroit	Semiprimitive Nonmotorized W/Harvest	960
Lava Lake	Sweet Home	Semiprimitive Nonmotorized	2,368
Echo Mountain	Sweet Home	Semiprimitive Nonmotorized	3,491
Gordon Lakes	Sweet Home	Semiprimitive Nonmotorized	1,846
Browder Ridge	Sweet Home	Semiprimitive Nonmotorized	4,074
Santiam Pass	McKenzie	Semiprimitive Motorized W/Harvest	16,929
Scott Lake	McKenzie	Semiprimitive Nonmotorized	2,730
Obsidian	McKenzie	Semiprimitive Nonmotorized	490
English Mountain	McKenzie	Semiprimitive Nonmotorized	2,001
Deer Butte-Cupola Rock	McKenzie	Semiprimitive Nonmotorized	3,794
Highway 242-Scott Lake	McKenzie	Semiprimitive Motorized	3,010
Slick Creek/Bed Rock Creek	Lowell	Semiprimitive Nonmotorized	2,235
Hardesty Mountain	Lowell	Semiprimitive Nonmotorized	768
Chucksney Mountain	Oakridge	Semiprimitive Nonmotorized	9,564
Waldo Lake-Road Corridor	Oakridge	Semiprimitive Motorized	9,724
Waldo Lake	Oakridge	Semiprimitive Nonmotorized	24,057
Larison Rock	Rigdon	Semiprimitive Nonmotorized	2,816
Larison Creek	Rigdon	Semiprimitive Nonmotorized	2,495
Emigrant Creek	Rigdon	Semiprimitive Nonmotorized	960
Emigrant Pass	Rigdon	Semiprimitive Motorized	2,325
Bulldog Rock	Rigdon	Semiprimitive Nonmotorized	533
Oregon Cascades Recreation Area	Rigdon	Semiprimitive Nonmotorized	4,906
Oregon Cascades Recreation Area	Rigdon	Semiprimitive Motorized	1,152

The Oregon Cascades Recreation Area (OCRA) was established by Congress through the Oregon Wilderness Act of 1984 and provides additional dispersed recreation opportunities. This unique area was established by Congress ". . . to conserve, protect, and manage, in a substantially undeveloped condition, certain National Forest System lands in the State of Oregon having unique geographic, topographic, biological, ecological features and possessing significant scenic, wildlife, dispersed recreation, and watershed values . . . within the Umpqua, Willamette, Winema, and Deschutes National Forests." (Oregon Wilderness Act of 1984)

The Willamette National Forest's portion (6,122 acres, including developed sites) of the OCRA includes both dispersed and developed recreation opportunities, consisting of two non-fee campgrounds and 20.2 miles of developed trails. The area is apportioned spatially and seasonally among developed sites, and dispersed motor and nonmotorized use opportunity areas.

The Oregon Cascades Recreation Area (OCRA) is managed to provide for motorized use over the undeveloped areas when snow depths permit and on designated trails during snow free periods. The Pacific Crest National Scenic Trail is closed to motor use all year. For additional information on the management of the OCRA, see management area prescriptions 2a, and 2b in this chapter of the Forest Plan and the OCRA Management Plan in Appendix B of this document.

Off-Road Vehicles This Plan maintains 57% of the Forest as open to off-road vehicle (ORV) use. Six percent of the Forest area is restricted to seasonal use of ORVs and 37% of the Forest is closed to ORV use. For a general display of management areas open, restricted, or closed to ORV use, refer to the Forest Plan map included in the accompanying map packet and management area S&Gs in this chapter. Specific management direction concerning regulation and management of ORVs, ATVs and mountain bikes will be provided through development of Ranger District Recreation Access and Travelway Management Guides. Refer to Forest-wide S&Gs for Travelway Management Guide requirements and Appendix D for the proposed development schedule for these guides.

Trails Existing and potential trails included in this Plan are managed in accord with the S&Gs of one of four Trail Management Classes. The description of Trail Management Classes I through IV and management direction are included in Forest-wide S&Gs. In addition a complete listing of existing and potential trails, by name, respective Trail Management Class, trail number, and length in miles is included in Appendix G of this document. A summary of how the Forest's existing and potential trail system is distributed among the four Trail Management Classes is provided in Table IV-8 and is displayed on the Forest Trail System map.

This Plan schedules the construction of 60 miles of new trails during the next 10 to 15 years. Development priority for new trails is given to those located with in semiprimitive recreation areas and to provide access to new recreation opportunities included in this Plan. Existing nonwilderness trails will be reconstructed and maintained on a regularly scheduled basis. Trail reconstruction is scheduled for 720 miles of Forest trails during the effective period of this Plan.

Table IV-8. Trail Management Classes [1]

Management Classes	Existing Trail Miles[2]	Potential Trail Miles[2]	Total Miles
Trail Class I	349.1	231.4	625.5
Trail Class II	115.0	78.1	193.1
Trail Class III	127.7	92.6	220.3
Trail Class IV	76.9	150.1	227.0
Total Miles	713.7	552.2	1,265.9

[1]Mileages are for non-Wilderness trails.
[2]Trail management classes are defined by the Forest-wide Trail standards and guidelines in this chapter.

Scenic Resources

Management of the Forest's scenic resources is emphasized within the viewsheds of federal and state highways and major Forest roads. The visible land areas adjacent to selected travel routes are managed for a variety of Visual Quality Objectives (VQOs) including retention, partial retention, and modification.

Viewshed corridor management guides to be developed during the Forest Plan period will provide implementation guidance for vegetation manipulation activities. Viewshed guides will provide information on the location, distribution, and design of harvest activities to ensure attainment of the desired future condition of each viewshed corridor and enhance long-term visual characteristics of the Forest. Table IV-9 displays the amount of area scheduled for harvest treatment within each viewshed corridor by management area and decade. The amount of forest area shown as available of treatment is based on the amount of suited land, management area harvest rate and harvest history with in each viewshed.

In addition to timber harvest activities, landscape management and design principles will also be utilized in the planning and implementation of a wide range of other resource management activities. A schedule for development of viewshed corridor management guides is included in Appendix D of this document.

Table IV-9. Schedule of Viewshed Harvest Acres by Decade

	Available Acres by Management Area (MA)					
Viewshed	**MA**	**Decade 1**	**Decade 2**	**Decade 3**	**Decade 4**	**Decade 5**
Little North Santiam	MA 11a	343	343	343	343	343
	MA 11b	5	5	5	5	5
	MA 11d	10	10	10	10	10
	MA 11f	81	81	81	81	81
	MA 14a	353	353	353	353	353
Breitenbush	MA 11a	890	890	890	890	890
	MA 11c	341	341	341	341	341
	MA 11d	102	102	102	102	102
	MA 14a	2347	2352	2352	2352	2352
North Santiam	MA 11a	1,446	1,446	1,537	1,537	1,537
	MA 11c	883	929	929	929	929
	MA 11d	109	109	114	114	114
	MA 11f	254	254	254	254	254
	MA 14a	1,733	1,733	1,733	1,733	1,733
South Santiam	MA 11a	1,660	1,660	1,660	1,660	1,660
	MA 11c	219	219	219	219	219
	MA 11d	0	25	25	25	25
	MA 11f	223	223	223	223	223
	MA 14a	902	902	902	902	902

Table IV-9 Cont. Schedule of Viewshed Harvest Acres by Decade

	Available Acres by Management Area (MA)					
Viewshed	**MA**	**Decade 1**	**Decade 2**	**Decade 3**	**Decade 4**	**Decade 5**
McKenzie	MA 10b	288	288	288	288	288
	MA 11a	475	475	475	475	475
	MA 11c	758	758	762	762	762
	MA 11e	311	311	311	311	311
	MA 11f	232	232	232	232	232
	MA 14a	5,325	5,325	5,325	5,325	5,325
North Fork/South Fork	MA 6b	0	0	0	19	19
	MA 6c	210	210	210	210	210
	MA 11a	3,578	3,578	3,578	3,578	3,578
	MA 11c	230	230	230	230	230
	MA 11d	91	91	91	91	91
	MA 11f	0	16	16	16	16
	MA 14a	1,884	1,884	1,884	1,884	1,884
Fall Creek	MA 11c	520	520	520	520	520
	MA 14a	4,760	4,760	4,760	4,760	4,760
Willamette	MA 11a	1,837	1,837	1,841	1,841	1,841
	MA 11c	1,470	1,470	1,470	1,470	1,470
	MA 11d	27	27	27	27	27
	MA 11f	459	459	459	459	459
	MA 14a	4,362	4,362	4,362	4,362	4,362
Waldo	All MAs	0	0	0	0	0
Middle Fork Willamette	MA 11a	1,614	1,614	1,651	1,651	1,651
	MA 11c	603	603	615	615	615
	MA 11d	249	249	249	249	249
	MA 11f	99	99	99	99	99
	MA 14a	4,736	4,736	4,736	4,736	4,736

Wilderness

The Oregon Wilderness Act of 1984 established four new Wildernesses in the Forest for a total of eight. Management of the Forest's eight Wildernesses is governed by S&Gs for management areas 1a through 1d in the Management Area section of this Chapter, and by individual Wilderness Management Plans included in Appendix A. Use opportunities to be provided from each Wilderness during the effective period of this Forest Plan are illustrated in Table IV-10.

Management of Wilderness resources and conditions is focused on accommodating Wilderness use within the limits of estimated capacity. S&Gs for managing Wilderness use within the limits of Wilderness Resource Spectrum class capacities are provided in each Wilderness management area prescription in this chapter. In addition, a series of specific sequential actions are listed under Management Area 1 that will be employed as necessary to eliminate and mitigate the effects of excessive use in Wilderness. Trail maintenance, resource protection, and site rehabilitation measures will be employed routinely. During the Plan period 29 miles of Wilderness trails will be reconstructed annually. Wilderness management activities are also directed toward protecting and maintaining soil mantles, water quality, wildlife habitats and vegetative communities.

Table IV-10. Wilderness Resource Spectrum Classes

Wilderness	Units	Pristine	Primitive	Semi-Primitive	Transition	Total
Bull of the Woods	Acres	6,314	1,152	0	0	7,466
	PAOT[1]	1-5	5-35	0	0	6-40
Mt. Jefferson	Acres	55,501	9,335	7,337	192	72,565
	PAOT	27-41	134-207	172-227	14-16	347-491
Middle Santiam	Acres	7,188	256	1,109	0	8,533
	PAOT	2-5	7-8	26-68	0	35-81
Menagerie	Acres	4,352	0	597	0	4,949
	PAOT	1-3	0	3-37	0	9-40
Mt. Washington	Acres	36,992	2,560	1,514	0	40,996
	PAOT	17-28	76-79	92-94	0	195-201
Three Sisters	Acres	147,880	22,610	17,427	1,429	189,346
	PAOT	70-111	234-350	360-432	71-79	735-972
Waldo Lake	Acres	27,025	4,373	5,439	320	37,157
	PAOT	13-20	82-135	202-236	33-35	330-426
Diamond Peak	Acres	14,590	3,467	1,536	170	19,773
	PAOT	6-11	72-107	55-76	20-22	153-216
TOTAL	Acres	299,773	43,963	34,958	2,111	380,805
	PAOT	147-224	610-921	915-1,170	138-152	1,810-2,467

[1]Persons At One Time.

Special Areas

In addition to Lamb Butte, a previously established Special Interest Area, 44 new Special Interest Areas are provided to preserve special cultural, historic, geologic, zoologic, botanic and scenic qualities of the Forest. Management actions within these areas will focus on protection of the important historic, cultural, and natural aspects of the nation's heritage, and where appropriate, foster public use, study and enjoyment of designated lands.

Use within designated areas will be managed to the extent necessary to protect the unusual features of individual sites. Area management guides which provide direction and detailed implementation requirements will be prepared as appropriate to the conditions and features of each area. Table IV-11 is a listing of each Special Interest Area established by this Plan.

Table IV-11. Designated Special Interest Areas

Area Name[1]	Ranger District	Approximate Acres	Classification
Baby Rockshelter	Oakridge	107	Cultural
Bradley Lake	Rigdon	789	Botanical
Carpenter Mountain	Blue River/McKenzie	576	Geological
Chuckle Springs	Rigdon	107	Scenic
Clear Lake	McKenzie	469	Geological
Constitution Grove	Oakridge [2]	21	Scenic
Cougar Rock	Sweet Home	171	Cultural
Daly-Parrish Lakes	Sweet Home	405	Scenic
David Douglas	Oakridge	1,152	Geological
Deadhorse Rockshelter	Rigdon	43	Cultural
Doe Mountain	Sweet Home	149	Cultural
Eagle Creek	Oakridge	449	Scenic
Fall Creek	Lowell	2598	Recreational
Fish Lake	McKenzie	235	Cultural
Gold Hill	Sweet Home/Blue River	1,152	Cultural
Hardesty Mt.	Lowell	3,178	Ecological
Hell Hole	Oakridge	85	Geological
Hidden/Lulu Lakes	Blue River	597	Botanical
Hills Creek	Detroit	256	Zoological
Horsepasture Cave	Rigdon	21	Cultural
Iron Mt/Cone Peak	Sweet Home	2560	Botanical
Lamb Butte	McKenzie/Blue River	390	Scenic
McKenzie River	McKenzie/Blue River	1,386	Recreational
Monument Peak[3] [4]	Detroit	384	Botanical

Table IV-11 Cont. Designated Special Interest Areas

Area Name[1]	Ranger District	Approximate Acres	Classification
Moon Point [5]	Rigdon	2,005	Botanical
OCM Wagon Road	Rigdon	43	Cultural
Opal Creek	Detroit	298	Scenic
Phantom Natural Bridge	Detroit	128	Geology
Pinnacle Peak	Detroit	235	Geological
Rider Swamp	Blue River	21	Botanical
Rigdon Ranch	Rigdon	107	Cultural
Riggs-Don Lakes	Sweet Home	192	Scenic
Roaring River Springs	Blue River	256	Geological
Salt/Diamond Canyon	Oakridge	555	Scenic
Sand Mountain	McKenzie	363	Geological
Santiam Wagon Road	Sweet Home/McKenzie	2,559	Cultural
Shelter Falls	Sweet Home	64	Geological
South Fork McKenzie	Blue River	4,180	Recreational
Tamolitch Valley[3]	McKenzie	149	Geological
Terwilliger Hot Springs	Blue River	96	Geological
Three Pyramids	Sweet Home	1,877	Botanical
Tumblebug Gorge[3]	Rigdon	469	Geological
Vine Rockshelter	Rigdon	21	Cultural
White Cliffs Cave	Oakridge	21	Cultural
Wolf Rock/Lake[3]	Blue River	576	Geological/Botanical
TOTALS 45 Areas	--	31,120	--

[1]Descriptions of individual areas are included in the planning record.
[2]Included within the NF MF Willamette Wild and Scenic River corridor.
[3]Areas recommended for establishment in the 1977 Land Management Plan.
[4]Establishment Report--Monument Peak SIAs, March 24,1981.
[5]Moon Point Environmental Assessment--Interim Management Plan, March 16,1982.

Other special areas established in this Plan are Old-Growth Groves. Outstanding and highly accessible specimen groves of old-growth trees of the Western Cascades are established for education, use and enjoyment by the public. Designated groves are managed to provide access to educational, recreational, and aesthetic opportunities, and to provide habitat for old-growth dependent plant and animal species. An area management guide will be prepared for each grove that provides detailed management and project implementation guidance specific to the features and conditions of each grove. Table IV-12 is a listing of each Old-Growth Grove designated in this Plan.

Table IV-12. Designated Old-Growth Groves[1]

Old-Growth Grove	District	Dominant Species	Significant Attribute	Acres
Big Swamp	Rigdon	Douglas fir/w.redcedar	Tree diameter	192
Camp Creek	Sweet Home	Noble fir	Tree diameter	363
Castle Rock	McKenzie	Douglas fir	Accessibility	43
Cayuse Creek	Oakridge	Douglas fir/true fir	Tree diameter	43
Cliff's Creek	Detroit	Douglas fir/w.hemlock	Accessibility	107
Delta	Blue River	Douglas fir/true fir	Accessibility	149
Elk Camp	Oakridge	Douglas fir, Pacific silver fir	Outstanding example	128
Fall Creek	Lowell	Douglas fir	Tree diameter	85
Fisher Creek	Oakridge	Douglas fir	Tree diameter	85
Fish Lake Creek	McKenzie	Douglas fir	Stand Density	43
Gold Lake	Oakridge	Douglas fir/Mtn.hemlock	Outstanding example	448
Hackleman Creek	Sweet Home	Douglas fir/W.white pine	Accessibility	21
Highway 20	McKenzie	Douglas fir	Stand Density	85
Hugging Tree	Lowell	Douglas fir	Tree diameter	21
Indian Creek	Sweet Home	Douglas fir/w.white pine	Outstanding example	43
Joe's Prairie	Rigdon	Douglas fir	Tree Diameter	85
Johnny Creek	Lowell	Douglas fir	Stand Density	43
Kelsey Creek	Oakridge	Douglas fir	Tree diameter/age	192
Little Fall Creek I	Lowell	Douglas fir	Tree height	107
Little Fall Creek II	Lowell	Douglas fir	Tree height	192
Lost Creek	McKenzie	Douglas fir/w.redcedar	Accessibility	192
Outerson Mountain	Detroit	Alaska yellow cedar/w.hemlock	Outstanding example	384
Sardine Butte	Oakridge	Douglas fir	Tree diameter/age	64
Scar Creek	Sweet Home	Douglas fir/T.fir/w.red cedar	Outstanding example	85
Scar Mountain	Sweet Home	True fir	Park-like stand	192
SevenMile	Sweet Home	Douglas fir	Outstanding example	85
Slick Creek/Bedrock	Lowell	Douglas fir	Stand Density	43
South Fork Breitenbush	Detroit	Douglas fir/w.hemlock	Accessibility	384
Three Creeks	Sweet Home	Douglas fir	Tree diameter/age	1792
Tumble Lake	Detroit	Alaska y.cedar/Douglas fir	Outstanding example	576
Upper Furnish Creek	Oakridge	Douglas fir/Pacific s.fir	Stand diversity	128
Upper Salmon Creek	Oakridge	Noble fir	Park-like stand	64
Wall Creek	Oakridge	Douglas fir/w.redcedar	Accessibility	107
Whitewater Bend	Detroit	Douglas fir/w.hemlock	Accessibility	85
TOTALS	34 Areas	--	--	6,655

[1]Descriptions of individual areas are included in the planning record.

Research Areas

Areas provided for research in this land management Plan include one Experimental Forest and nine Research Natural Areas (RNAs).

H.J. Andrews Experimental Forest The H.J. Andrews Experimental Forest (HJA) was established in the Blue River Ranger District in 1948 as a site for research and education on the ecology and management of coniferous forest and watersheds in the Douglas-fir region of Oregon by the Pacific Northwest Forest and Range Experiment Station. Through a use agreement, Oregon State University uses the HJA extensively in teaching programs and for student research projects. Management of the Experimental Forest is a joint effort of the Pacific Northwest Forest and Range Experiment Station and the Forest. During the life of this Plan, the HJA will continue to provide research data to Forest managers related to the efforts of timber harvest and road construction on soils, water quality and quantity, fisheries and wildlife habitats.

Research Natural Areas Research Natural Areas (RNAs) are part of a federal system of tracts established for non-manipulative research and educational purposes. Each RNA is a site where some features are preserved for scientific purposes and natural processes are allowed to dominate. Their main purposes are to provide: (1) baseline areas against which effects of human activities can be measured, (2) sites for study of natural processes in undisturbed ecosystems; and (3) gene pool preserves for all types of organisms, especially those which are classified as rare and endangered.

Of the nine RNAs included in this Plan, four areas were formally established during the period of 1963 to 1979. The remaining five areas and one proposed addition to an established area are included as candidate RNAs to be formally established by the Chief of the Forest Service. Table IV-13 lists established RNAs and areas proposed for establishment as RNAs.

The five candidate areas plus the proposed Wildcat Mountain RNA addition have been determined by the Research Natural Area committee for the Pacific Northwest Region, to represent the best examples of specific ecosystems in the region; and are needed to meet present and future demand for research opportunities. However, prior to formal establishment, a comprehensive report will be prepared for each candidate area and submitted for approval.

Table IV-13. Established and Proposed Research Natural Areas

Area Name	Status	Acreage	Attribute Description
Middle Santiam[1]	Est. 1979	1,152	Old-growth Douglas-fir/Western Hemlock Forest
Wildcat Mountain	Est. 1968	1,003	Noble fir stands of the Western Cascades
Ollalie Ridge	Est. 1963	725	Mt. Meadows-true fir/Mt. hemlock in W Cascades
Gold Lake Bog	Est. 1965	469	Prime subalpine bogs.
Wildcat Mountain Addition	Proposed	384	Noble fir stands of the Western Cascades
Three Creeks	Proposed	725	Old-growth Douglas-fir of extreme age W Cascades
McKenzie Pass[1]	Proposed	1,130	Vegetation of subalpine lava flows.
Mt. Hagan	Proposed	1,280	Second growth Douglas-fir
Torrey-Charlton[1]	Proposed	2,133	High Cascades Mt. Hemlock/subalpine lakes/ponds
Rigdon Point	Proposed	469	Knobcone pine in dry site Douglas-fir type.
Total Acres	--	9,470	--

[1]Portions of these areas, totaling 2,346, acres are included within designated Wilderness.

Wild and Scenic Rivers

Protection and management of Wild and Scenic Rivers is provided in this Plan for 2 designated Wild and Scenic Rivers, 2 designated Wild and Scenic Study Rivers, and 9 rivers determined eligible for inclusion into the National Wild and Scenic Rivers System. Protection and management of free-flowing conditions and outstandingly remarkable values of designated, study, and eligible rivers is provided, at the highest river classification for which they qualify, in accord with the Wild and Scenic Rivers Act of 1968 (as amended) and the management area S&Gs for Wild and Scenic Rivers included in this Plan. These management S&Gs apply to a designated river until a River Management Plan is approved and to a designated Study River until it has been determined not suitable for inclusion into the National System. Protection of eligible rivers is also extended until a river segment is determined not suitable for inclusion into the National System.

This Plan schedules continued river management planning through the development of River Management Plans for the McKenzie River and The North Fork of the Middle Fork of the Willamette River during 1991; the completion of suitability studies for the Blue River and the South Fork of the McKenzie River during 1991; and suitability studies of 9 eligible rivers during the period 1991-1994. The current designation status, river classification, and related information of Forest rivers, whose free-flowing conditions and outstandingly remarkable values are protected in this Plan, is provided in Tables IV-14a,b,c.

As Wild and Scenic River planning activities are completed, the Forest Plan will be amended as necessary to incorporate river management plans for the McKenzie River and the North Fork of the Middle Fork of the Willamette River as well as the results of the suitability studies of the ll rivers listed in Table IV-14b and 14c. Also, as directed by the Wild and Scenic River Act, completed river plans will include final corridor boundaries and specific management direction for each designated river. See Forest-wide and management area S&Gs in this chapter for current direction for designated and potential Wild and Scenic rivers. A complete description of each river is in Appendix E of the FEIS.

Table IV-14a. Designated Wild and Scenic Rivers

River	Segment	River Class	Outstanding Values	Miles	Acres [1]
McKenzie River	Segment 1	Recreation	Recreation	1.8	749
	Segment 2	Recreation	Scenic	4.3	1,789
	Segment 3	Recreation	Fish Geology H2O Quality	6.6	2,091
NF of the MF Willamette River	Segment 1	Wild	Recreation	8.8	2,820
	Segment 2	Scenic	Scenic	6.5	1,850
	Segment 3	Recreation	Ecological Geology H2O Quality	27.0	8,160

Table IV-14b. Wild and Scenic Study Rivers

River	Segment	River Class	Outstanding Values	Miles	Acres [1]
Blue River	Segment 1	Recreation	Unknown	8.5	2,720
SF of the McKenzie River	Segment 1	Wild	Unknown	5.2	1,664
	Segment 2	Recreation	Unknown	16.0	5,120
	Segment 3	Recreation	Unknown	4.5	1,440

Table IV-14c. Wild and Scenic Eligible Rivers

River	Segment	River Class	Outstanding Values	Miles	Acres [1]
Little North Santiam River	Segment 1	Scenic	Scenic	7.8	2,626
Opal Creek	Segment 1	Wild	Scenic	4.0	1,493
South Fork Breitenbush River	Segment 1	Wild	Scenic, Wildlife	4.0	1,749
	Segment 2	Scenic	Scenic, Wildlife	6.5	1,834
Breitenbush River		Recreation	Recreation	10.5	3,200
North Santiam River	Segment 1	Wild	Wildlife	3.8	1,450
	Segment 2	Scenic	Scenic	4.2	1,088
	Segment 3	Recreation	Ecological	19.5	6,912
Quartzville Creek	Segment 1	Recreation	Scenic	2.3	875
	Segment 2	Recreation	Scenic	10.0	2,944
Middle Santiam River	Segment 2	Scenic	Scenic	2.0	853
	Segment 3	Wild	Scenic Ecological	6.0	1,493
South Santiam River	Segment 1	Wild	Scenic	4.0	1,706
	Segment 3	Recreation	Scenic Wildlife Historical-Cultural	15.3	4,287
Middle Fork Willamette River	Segment 1	Scenic	Scenic Historical-Cultural Ecological	16.0	5,674
	Segment 2	Recreation	Recreation Wildlife Historical-Cultural	14.0	5,247
TOTALS	2 Designated Rivers	--	--	55.0	17,459
	2 Study Rivers	--	--	34.2	10,944
	9 Eligible Rivers	--	--	126.2	43,420

[1] Acreages are based on a 1/2-mile-wide corridor as represented in the Forest Grid Mapping System database.

Range

Current obligations of four cattle and sheep allotments and 15 recreation grazing allotments representing 200 AUMs of actual use will continue to be administered. Future use allows allotments and permits up to potential supply, including transitory range (8,000+ AUMs/year). Range improvements will be made to prevent resource damage or to sustain existing permits.

Facilities

Facilities will be maintained, replaced, or constructed to prevent building deterioration, reduce hazards, provide for energy savings, meet higher resource production objectives, and provide for equal employment opportunity and handicapped access needs. Current administrative sites are on 662 acres dispersed over seven Ranger Districts.

Transportation

Forest development roads are constructed, operated, and maintained for the administration and protection of National Forest lands. They are not public roads in the same sense as roads under the jurisdiction of states and counties. They are not intended to meet the transportation needs of the public at large. Instead, they are designed to standards appropriate for their intended use, considering safety, cost of transportation, and impacts on land and resources.

Table IV-15 displays the future development and management of the Forest Transportation System. Most of the new road construction will occur in the first decade of the Plan. The planned new construction includes approximately 400 miles of roads in the first decade. Roads are generally designed for a single user with low speeds, primarily for timber harvest and intermittent post harvest management access. Collector roads will be constructed to a higher standard than local roads and may be designed to accommodate a mix of commercial traffic and recreational traffic. The actual on-the-ground location of projects will determine the actual miles required.

Table IV-15. Management of the Forest Transportation System

	Miles by Decade				
Activity	1	2	3	4	5
Road Construction	400	70	60	50	20
Road Reconstruction	1,740	1,710	1,710	1,710	1,710
Roads Suitable for Public Use					
Passenger Cars	1,580	1,585	1,585	1,585	1,585
High Clearance Vehicles Only	4,530	4,550	4,570	4,570	4,570

Within and adjacent to existing inventoried roadless areas, the Forest Plan indicates the eventual construction of a road system totalling 221 miles. Approximately 64 miles will be constructed during the first decade.

Source Documents The Forest Road Development Plan includes:

Transportation Information System (TIS) - Inventory system to store data relative to the different facilities comprising the Forest development transportation system.

1:24000 Transportation System Update Map - Shows all forest development roads on the primary base series quadrangles.

Ten-Year Capital Investment Program The Transportation System Capital Investment Program for the Forest Plan (first decade) will include:

Reconstruction of existing roads.

Replacement of bridges.

Construction of new arterial/collector routes and bridges.

Coordination Requirements For state highways crossing National Forest land, the Regional Forester's Memorandum of Understanding with the State of Oregon will be consulted. This memorandum contains S&Gs for coordinating the location, construction, maintenance, and signing of the Forest Highway Program. It also includes direction on access and control, third-party occupancy, landscape management, rest areas, and right-of-way grants for highways.

The Forest will continue to cooperate with county governments, and share in the cost of construction, reconstruction, improvement, and maintenance of certain Forest and county roads. Existing agreements that provide S&Gs for consultation, maintenance, and rights-of-way are included in this Plan by reference.

Whenever possible or feasible, the Forest will avoid duplicating existing or planned road systems by negotiating agreements with interested parties to share in the costs of a single system to serve all tributary ownerships. All future agreements and supplements and all existing agreements will be reviewed to ensure compliance with the management area prescriptions in this Forest Plan.

Lands

All existing special use permits representing 3,775 acres will be administered to established standards. Necessary landline location will be done to support all resource programs. Investments in permanent markers will be maintained. Rights-of-way necessary to support revenue producing resource activities will be acquired. The desired land ownership pattern will generally be achieved with methods other than purchase.

Communication sites will be managed to provide service where alternative private sites are not available. The sites will be managed to maximize the number of compatible uses. Construction will be minimized and visual concerns will be evaluated during site planning. Site plans will be developed for existing sites with facilities in place that do not have one. The following sites are designated communication sites:

Stony Ridge
Hall's Ridge
Coffin Mountain
Cougar Rock
Iron Mountain
Hoodo Butte
Buck Mountain
Frissel Point
Little Smokey
Mt. Hagan
Indian Ridge
Huckleberry Mountain
Dead Mountain
Wolf Mountain
Warner Mountain
Lowell Butte

Timber

Timber planning implementation requires information on land suitability, allowable sale quantity, planned sale program and harvest methods.

Land Suitability The total Forest landbase includes 1,675,408 acres, of which 1,032,138 acres are tentatively suited for timber management. From among these lands timber harvest is scheduled on 774,608 acres to facilitate wood fiber production and achieve other multiple-use objectives. Table IV-16 illustrates the availability of suited Forest land for scheduled timber harvest by management area.

Although timber harvest may occur in some management areas unavailable for scheduled harvest, such as the H.J. Andrews Experimental Forest, harvest activities are for purposes other than wood fiber production. Table IV-17 provides a land suitability summary for timber management.

Table IV-16. Land Suitability By Management Area

Management Areas	Suitability Classification				
	Nonforest	Unsuitable[1]	Tentatively Suitable[2]	Total Acres	Suitable[3]
1 Wilderness					
Management Area 1a-d	74,890	89,671	216,265	380,805	---
2 Oregon Cascades Recreation Area					
Management Area 2a	171	357	816	1,344	---
Management Area 2b	256	1,521	2,937	4,714	---
3 Experimental Forest					
Management Area 3	875	2,112	12,392	15,379	---
4 Research Natural Area					
Management Area 4a-b	1,045	3,007	3,072	7,124	---
5 Special Interest Area					
Management Area 5a	4,095	6,719	17,128	27,942	---
Management Area 5b	43	299	2,837	3,178	---
6 Wild and Scenic River					
Management Area 6b	21	43	1,173	1,237	1,173
Management Area 6c	1,237	1,685	10,281	13,203	10,281
7 Old-Growth Grove					
Management Area 7a	256	832	5,567	6,655	---
8 T & E Species					
Management Area 8	---	---	1,472	1,472	---
9 Special Habitat					
Management Area 9a	---	7,807	61,238	69,045	---
Management Area 9b	---	2,624	6,890	9,513	---
Management Area 9c	---	2,496	12,073	14,568	---
Management Area 9d	5,205	6,740	19,410	31,355	---
10 Dispersed Recreation					
Management Area 10a	---	277	21	299	21
Management Area 10b	2,473	7,956	9,215	19,645	9,215
Management Area 10c	341	1,301	7,231	8,873	---
Management Area 10d	299	21	640	960	640
Management Area 10e	7,977	20,136	41,785	69,898	---
Management Area 10f	555	512	2,538	3,605	---

Table IV-16 Cont. Land Suitability By Management Area

	Suitability Classification				
Management Areas	Nonforest	Unsuitable[1]	Tentatively Suitable[2]	Total Acres	Suitable[3]
11 Scenic					
Management Area 11a	3,541	11,945	122,690	138,176	122,690
Management Area 11b	---	149	107	256	107
Management Area 11c	2,965	8,020	59,105	70,090	59,105
Management Area 11d	1,109	1,450	21,757	24,316	21,757
Management Area 11e	704	3,029	4,479	8,212	4,479
Management Area 11f	2,432	2,261	31,696	36,389	31,696
12 Developed Recreation					
Management Area 12a	661	192	1,856	2,709	---
Management Area 12b	1,386	107	896	2,389	---
13 Special and Administrative Use					
Management Area 13a	3,690	---	128	3,818	---
Management Area 13b	661	---	21	683	---
14 General Forest					
Management Area 14a	28,476	53,944	563,901	646,320	563,901
Management Area 14b	---	43	619	661	---
15 Riparian					
Management Area 15	789	2,687	47,075	50,552	---
TOTAL ACRES	146,153	239,943	1,289,312	1,675,408	825,066[3]

[1]These are acres of soil types that are unsuitable for growing timber. They are shown for the Congressionally withdrawn lands and no-harvest management areas as a matter of interest.

[2]These are acres of soil types that are suitable for growing timber. They are shown for the Congressionally withdrawn lands and no-harvest management areas as a matter of interest.

[3]Includes 24,764 acres of roads and 25,694 acres in big game cover and class IV stream protection. Net acres = 774,608.

Table IV-17. Land Suitability for Timber Management

Category	Unsuitable and Unavailable Lands	Total Acres
I. Total National Forest Area		1,798,737
A. Other Ownerships	123,330	
II. Net National Forest Area		1,675,407
A. Water	23,101	
B. Nonforest Lands and Uses	123,052	
C. Roads	24,764	
III. Forested Lands (10% or more tree cover)		1,504,490
A. Withdrawn from Scheduled Harvest		
1. Wilderness	305,915	
2. Research Natural Areas (established)	1,450	
3. Oregon Cascades Recreation Area	5,631	
4. H.J. Andrews Experimental Forest	14,505	
B. Risk of Irreversible Resource Damage	9,662	
C. Regeneration Difficulty (5+ years)	135,189	
IV. Forested Lands Tentatively Suitable		1,032,138
V. Tentatively Suitable Land Unavailable Due to:		
A. Meeting Multiple-Use Objectives		
1. Research Natural Areas (proposed)	3,072	
2. Special Interest Areas	19,965	
3. Old-Growth Groves	5,567	
4. Special Wildlife Habitats	19,410	
5. Dispersed Recreation Areas	51,554	
6. Developed Recreation Areas	2,752	
7. Riparian 1, 2, and 3	47,075	
8. Stipulated Mining Claims	128	
9. Riparian 4/Big game cover	25,694	
10. Deferred/Administrative Site	640	
B. Meeting Wildlife Management Requirements		
1. Spotted Owl Habitat	61,238	
2. Pileated Woodpecker Habitat	6,890	
3. Marten Habitat	12,073	
4. T and E Species--Bald Eagle	1,472	
VI. Forested Land Suitable and Available for Scheduled Timber Harvest		774,608
VII. Total Unsuitable and Unavailable	1,024,129	

As illustrated in Table IV-17, 75% of the Forest's suited land base is available for scheduling timber harvest activities during the Plan period. From among the lands available for harvest activities, about 10% will be managed for less than full potential, in consideration of other resource management needs. Table IV-18 is a listing of suited forest land acreages by allocations that will be managed for reduced yield during the life of this Forest Plan.

The land suitability classification will be reviewed at least every 10 years. Land suitability may be adjusted at any time due to changed conditions according to the criteria in NFMA regulations 36 CFR 219.14(a) and (c).

Table IV-18. Reduced Yield Lands

Category	Maximum Harvest Rate/Decade	Suitable Forest Land Acreage	Rotation Age (yrs)	Expected Percent[1] of Full Yield
Wild and Scenic Rivers				
Management Area 6b	5%	1,173	200	62-84%
Management Area 6c	5%	10,281	200	62-84%
Dispersed Recreation				
Management Area 10b	7%	9,215	143	74-94%
Management Area 10d	5%	640	200	62-84%
Scenic				
Management Area 11d	7%	21,757	143	74-94%
Management Area 11e	7%	4,479	143	74-94%
Management Area 11f	5%	31,696	200	62-84%

[1]Range of values due to different working groups and management intensities.

Table IV-19 displays the Forest acres by productivity classification based on the 1981 Timber Inventory. The unsuitable lands producing less than 20 cubic feet per acre per year are non-forest acres (less than 10% tree cover) and include water and roads. The remaining unsuitable lands are estimates based on the same relationship to productivity classes as the suitable acres.

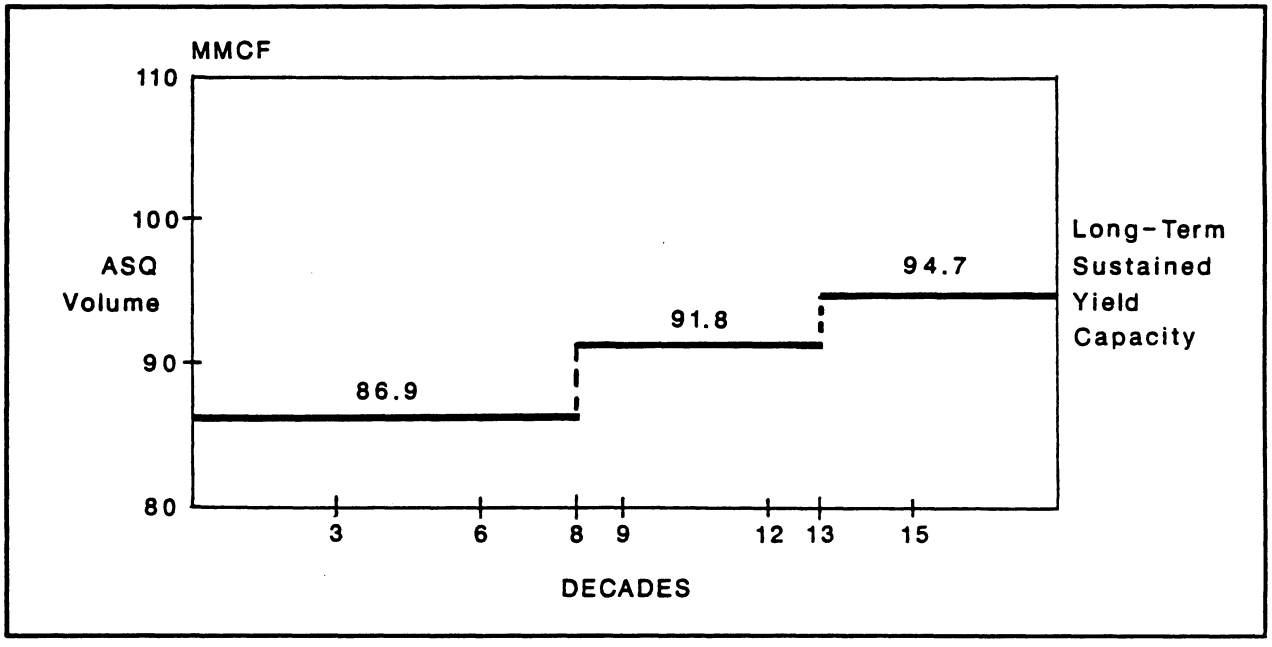
Allowable Sale Quantity During the Forest Plan period, the annual allowable sale quantity (ASQ) will be 491 million board feet or 87 million cubic feet. The allowable sale quantity of this Plan includes chargeable green timber meeting minimum utilization standards specified in the Pacific Northwest Regional Guide. Figure IV-2 is a display of the allowable sale quantity or base sale schedule of the Forest Plan and a projection of the Forest's long-term sustained yield capacity over the next 150 years. In addition, nonchargeable volume is also provided including cull, chip material, firewood, and special products. An average annual total of 113 million board feet or 20 million cubic feet of nonchargeable wood products is estimated to be available during the period of this Plan.

Table IV-19. Timber Productivity Classification

Potential Growth (cubic feet/acre/year)	Suitable Lands (acres)	Unsuitable Lands[1] (acres)
Less than 20 (non-forest)	0.0	170,917
20-49	27,111	25,546
50-84	169,639	159,844
85-119	233,157	219,694
120-164	289,704	272,976
165-224	51,899	48,902
225+	3,098	2,920
TOTAL	774,608	900,799

[1] Unsuitable lands producing less than 20 cf/ac/yr are non-forest acres. The remaining unsuitable lands are estimates based on the same breakdown as suitable acres.

Figure IV-2. Allowable Sale Quantity and Long-Term Sustained Yield Capacity



Planned Sale Program A detailed presentation of planned timber sales is provided in Appendix C. The planned sale schedule is an estimate of probable locations, volumes, and acres of proposed harvest activities. It is likely that adjustments to this program will be necessary following field verification and after unit measurements are taken. Table IV-20 shows how the components of the timber sale program quantity are allocated to the Ranger Districts for the first decade. The average annual harvest during the effective period of this Plan is achieved from a mix of management area allocations with various harvest rate constraints. Table IV-21 displays the first decade harvest acres by District for each of the different harvest rate allocations.

Table IV-20. Annual Timber Sale Program Volumes (MMBF) - By District and Type

	Volume Types			
District	Sound	Cull, PAM, Salvage, etc.	Firewood[1]	Total
Detroit	96.3	17.9	4.2	118.4
Sweet Home	70.0	13.0	3.1	86.1
McKenzie	54.0	10.1	2.4	66.5
Blue River	50.1	9.3	2.2	61.6
Lowell	62.9	11.7	2.8	77.4
Oakridge	90.9	17.0	4.08	111.9
Rigdon	66.9	12.5	2.9	82.3
TOTAL	491.1	91.5	21.6	604.2

[1]This is the portion of PAM (per acre material) historically utilized as firewood and dependent on the market for chips. An additional 10 MMBF (20,000 cords) is available annually through PUM (piled unmerchantable material).

Table IV-21. Distribution of 1st Decade Timber Harvest (Acres)

	Ranger District							
Harvest Rate/Decade	Detroit	Sweet Home	McKenzie	Blue River	Lowell	Oakridge	Rigdon	Total
5%	68	1,077	65	42	0	333	1,522	3,107
7%	307	48	296	105	1,336	283	191	2,566
10%	636	209	741	403	697	672	304	3,662
12%	1,738	2,122	119	1,652	727	2,919	1,241	10,578
General Forest	15,251	9,898	8,779	7,478	8,140	12,394	9,142	71,083
TOTAL	18,000	13,354	10,000	9,680	10,900	16,601	12,400	90,935

Harvest Methods Harvest methods to be used during the effective period of this Plan are based on criteria set forth in the Pacific Northwest Regional Guide and the National Forest Management Act regulations. In addition to these criteria listed below, site specific conditions are considered before a final harvest method is chosen. However, no method of harvest will be selected solely because it results in the greatest dollar return or provides the highest output of timber, or which would permanently reduce site productivity, or could not ensure conservation of water and soil resources.

The selected method must permit the production of a volume of marketable trees sufficient to utilize all trees that meet the utilization standards and are designated for harvest.

The selected method must use available and acceptable logging methods.

The selected method must be capable of meeting special management objectives.

The selected method must permit the control of vegetation to establish desired species composition, density, and rates of growth.

The selected method must promote a stand structure and species composition which minimizes risks from insects, disease, and wildfire.

The selected method must ensure that lands can be adequately restocked within 5 years.

The selected method must be practical and economical in terms of transportation, harvesting, preparation, and administration of timber sales.

A range of harvest methods and techniques is used to achieve timber management objectives of this Plan. Even-aged management, including clearcuts and shelterwood, will be the principal system employed, although selection harvest will be utilized in dispersed recreation areas, riparian zones, and scenic corridors as appropriate. Table IV-22 illustrates the average annual acres by vegetation management practices for the Plan period. Timber stand improvement includes release, precommercial thinning, and fertilization.

Table IV-22. Planned Annual Treatment by Vegetation Management Practices

Practice	Acres	MMCF
Regeneration Harvest		
Clearcut	8,457	77.0
Shelterwood and seed tree		
Preparatory cut	0.0	0.0
Seed cut	637	4.1
Removal cut	637	1.7
Selection	0.0[1]	0.0
Intermediate Harvest		
Commercial thinning	2,830	4.2
Salvage/sanitation	[2]	
Timber Stand Improvement	18,100	
Reforestation[3]	9,094	

[1] None planned, but may be prescribed in some areas to meet specific resource needs.
[2] Historically salvage has accounted for about 3.5% of the TSPQ, but the acres are highly variable and cannot be reasonably estimated. This program must be balanced with the need to maintain wildlife trees and large woody debris within subdrainages.
[3] Includes natural and artificial. Natural regeneration is estimated at about 4% of the acres.

Present and Future Forest Conditions Table IV-23 shows the volume of growing stock on the Forest by suitable and unsuitable lands. There is currently nearly 50 billion board feet (BBF) of growing stock on the Forest with about 20.8 BBF on lands suitable for harvest in this Plan. Also shown is the amount of live cull and salvable dead material. Volumes for the future (150 years) are shown only in cubic feet. The growing stock level falls from about 3.8 billion cubic feet (BCF) to about 3.1 BCF as the high volume per acre existing stands are harvested over the first five decades. This level is then maintained into the future. The annual net growth increases as the slow growing older stands are replaced with managed stands. After six decades, the growth increases from about 47 MMCF per year to over 90 MMCF per year.

Table IV-23. Present and Future Forest Conditions

	Unit of Measure	Suitable Land	Unsuitable Land[1]
Present Forest			
Growing Stock	MMCF	3,813	5,100
	MMBF	20,780	28,000
Live Cull	MMCF	595	795
	MMBF	3,242	4,300
Salvable Dead	MMCF	133	178
	MMBF	727	970
Annual Net Growth	MMCF	47	63
	MMBF	256	340
Annual Mortality	MMCF	12	16
	MMBF	65	87
Future Forest			
Growing Stock	MMCF	3,148	
Annual Net Growth	MMCF	92	
Rotation Age	Years		
Douglas fir/hemlock	78[2] - 200		
Douglas fir/true fir	93[2] - 200		
True fir	93[2] - 200		
Mountain hemlock/lodgepole pine	99[2] - 200		
Age Class Distribution Acres[3] (suitable lands)	Age Class	Present Forest	Future Forest
	10	77,961	84,556
	20	114,897	87,788
	30	48,100	91,321
	40	21,342	90,164
	50	12,610	90,537
	60	20,577	79,179
	70	--	59,459
	80	--	51,638
	90	--	30,243
	100	--	16,348
	110	--	5,392
	120	44,243	5,181
	130	--	4,044
	140	403	5,673
	150	--	357
	160	11,207	7,057
	170	--	--
	180	191,023	--
	190	10,418	756
	200+	162,363	5,452

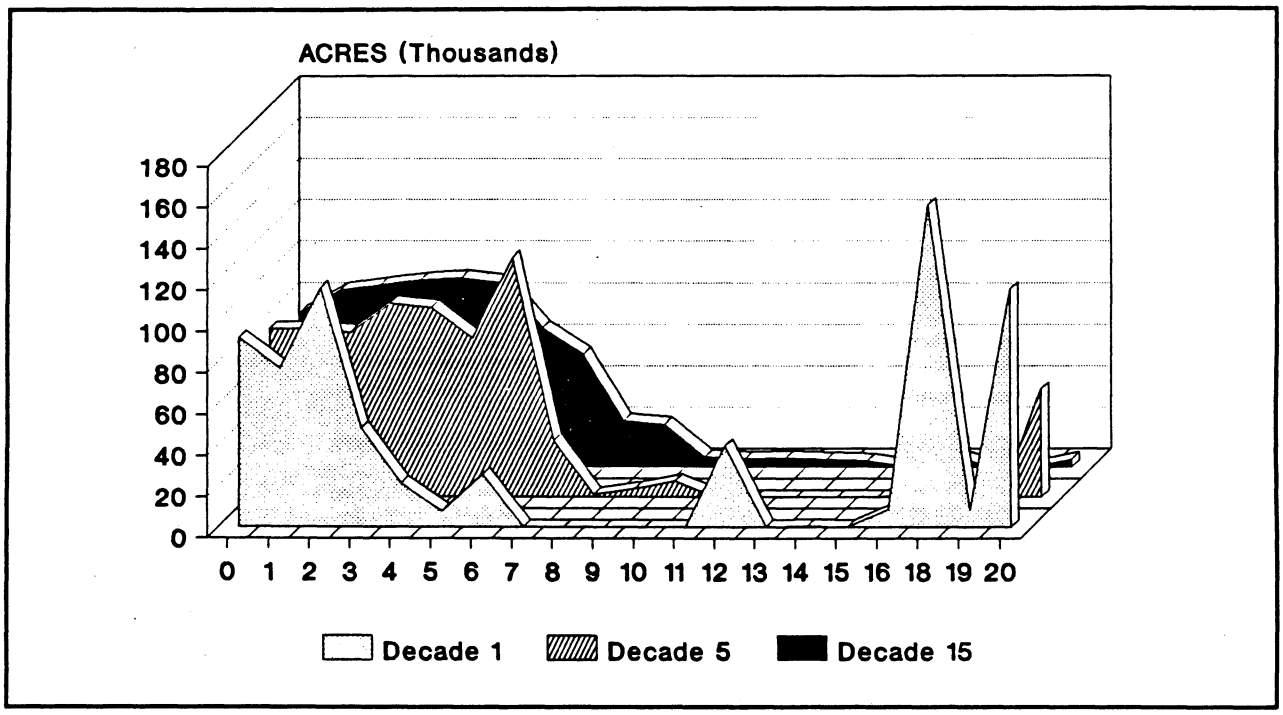
[1] Estimates based on data for suitable lands.

[2] Average rotation age for regenerated stands on lands with timber emphasis by major forest types.

[3] Not all acres are represented here due to FORPLAN reporting limitations.

Age Class Distribution Figure IV-3 shows how the age class distribution changes over time on the acres managed for some level of timber harvest. Even though all age classes are found on the Forest, the inventory averaged the ages for each species and size class, resulting in some gaps. Over time the distribution of age classes becomes more consistent as the stands have been harvested at least once, and some are into the third rotation. As can be seen, after the fifth decade, there are relatively few acres in the 100 to 200 year age class within harvest allocations. Table IV-23 shows the acres by age class at the beginning of the first decade and at the 15th decade. Some of the acres are not shown because they do not get harvested in the first 150 years. This table also shows the range of rotation ages by species. The average rotation length in the general forest management area is about 80 years, with the breakdown by species as follows: Douglas fir/hemlock = 78 years; Douglas fir/True fir and True fir = 93 years; and Mountain hemlock/lodgepole pine = 99 years.

Figure IV-3. Age Class Distribution Over Time



Minerals/Energy

All energy related applications and notices of intent or operating plans for locatable minerals will be responded to in a timely manner. Active permits and claims will be administered to established standards to minimize adverse impacts to surface resources. All anticipated major energy projects, mining opportunities and leases, and claims with potential for development will be identified.

The amount of land withdrawn from entry for mineral and energy development will be increased. All public and private applications for common mineral materials will be responded to along with Forest Service and cooperative agency use.

FOREST-WIDE STANDARDS AND GUIDELINES

INTRODUCTION

The following Standards and Guidelines (S&Gs) state the bounds or constraints within which all practices will be carried out in achieving the planned goals and objectives of the Willamette National Forest. The intent of the S&Gs is to help the manager stay within the constraints prescribed by law as well as provide environmental safeguards for management activities. Project-level direction will be developed through NEPA procedures, within the bounds of the S&Gs

The monitoring questions displayed in Chapter V reflect the expected end results of applying S&Gs. In some cases, such as watershed management, thresholds of concern in monitoring questions can be used to clarify the intent of S&Gs.

Two categories of S&Gs are applied to management of the Forest. Forest-wide S&Gs apply to all management areas, unless specifically exempted or amended by direction for an individual management area. The S&Gs specific to the management areas are presented in the section following the Forest-wide S&Gs.

Specific terminology used in the S&Gs identifies the type of direction and degree of compliance required. Correct interpretation of the terms is critical to understanding the intent of the direction.

> The first intent is conveyed by the word "**shall.**" With this degree of compliance the action is mandatory in all cases.
>
> The second intent is conveyed by the word "**should.**" With this degree of restriction, action is required, unless justifiable reason exists for not taking action. This direction is intended to require a practice unless it entails unacceptable hardship or expense. Exceptions to "should" restrictions are expected to occur infrequently.

All direction statements in both the Forest-wide and Management Area Standard and Guideline sections are printed in bold type. The S&Gs in both sections are also numbered for ease of reference during implementation. In addition to the S&Gs or direction in the following section, some information is also provided to clarify the intent of the direction and as an aid to implementation of the S&Gs. In contrast to the bold typed direction statements, these explanatory statements are in regular type and do not use the words "shall" or "should". The words "may" and "will" are commonly used in these explanatory statements and are not meant to be management direction.

The word "may" is used to identify how the objectives of a particular standard can be met by describing situations or circumstances typically encountered. The word "will" applies only to a statement of future condition or an expression of time. It does not convey a degree of compliance.

Levels of resource management prescribed in the S&Gs must be met. Consistent with the goals of each management area, however, land managers will employ all available inventory information to maximize enhancement and minimize impairment of every resource value involved.

The S&Gs describe what will and will not occur in a particular area to achieve the desired goal. Because of the great variety of resources and circumstances; however, provision has been made for unusual and unforeseen implementation problems. Some of these problems will be the result of insufficient or inaccurate inventory data. The NEPA process will guide project planning and Forest Plan implementa-

tion, and must be followed to make a departure from the S&Gs. This will result in an amendment to the Forest Plan. These situations will be fully described, alternatives developed, and costs evaluated. Mitigation measures will be employed to produce a result as close as possible to that called for. The long-term goal for a particular management area will not change.

The S&Gs are grouped by resource element in the following order:

Recreation Management
Forest Trail System
Scenic Resources
Wild and Scenic Rivers
Soil and Water Quality
Fisheries
Wildlife Management
Potential Endangered, Threatened and Sensitive Species
Timber Management
Biological Diversity and Old Growth
Air Quality
Fire and Fuels Management
Integrated Pest Management
Cultural Resources
Lands
Minerals and Energy Resources
Facilities

Each S&G is numbered on the left margin to help highlight specific statements of direction and to facilitate referencing the S&Gs during project assessments. The **FW** prefix indicates Forest-wide direction while the 3 numerals following the prefix are a unique identifier for each S&G in this section. The numbers are sequential through the entire Forest-wide S&G section.

RECREATION MANAGEMENT

FW-001 **The Forest shall provide for a wide range of developed and dispersed recreation opportunities compatible with individual management area objectives and sensitive to public demand and/or use.** Natural processes, historic or cultural features will be interpreted and displayed for public awareness and enjoyment.

FW-002 Public information is integral to the management of recreation resources. **The public should be informed on a continual basis using the media outlined below.**

Forest Recreation maps.
Wilderness Brochures.
Wild and Scenic River Brochures and Maps.
Trail Pamphlets.
Radio & TV Spots and Videos.
News Releases.
Coordination with individuals, private organizations, and other agencies.

FW-003 **Maps should be reviewed, and updated if needed, at intervals not to exceed 5 years for recreation maps and 10 years for Wilderness maps.**

FW-004 **The Recreation Information Management (RIM) Inventory shall be updated annually to monitor levels and types of recreation use on all areas of the Willamette National Forest. All sources of information should be used to gather data for the RIM report including trailhead registration boxes, river registration, permits, employee or public observations.**

FW-005 **Use levels and effects shall be monitored as established in Chapter V of the Forest Plan.**

Developed Recreation

FW-006 **The Forest Service should provide for developed recreation opportunities throughout the Forest commensurate with projected need and in partnership with other recreation providers and user-groups.** Marketing surveys and similar tools will be used to determine customer (recreation users) interests and needs.

FW-007 **Comprehensive and detailed site plans shall be developed prior to site construction or expansion in accord with requirements specified in FSM 2330.**

FW-008 **Site designs shall be based upon the ROS class and development scale concept. A vegetation management prescription should be prepared and implemented for each site or group of sites.**

FW-009 **Site plans should show the specific location and design of all facilities and shall provide for proper utilization of the site, control of traffic, public safety, sanitation, site protection, grading, landscape planting, and use distribution.**

FW-010 **Barrier-free access shall be considered during the development and reconstruction of recreation facilities.**

FW-011 **Each site should be analyzed periodically to determine whether its intended function is being served and if it requires alteration, replacement, closure, or elimination.**

FW-012 **As management activities are planned in areas adjacent to identified potential development sites, those potential sites shall be protected to maintain their character until scheduled for development.**

FW-013 **Potential and existing developed recreation sites shall be designed to minimize annual maintenance and operating costs. The design should discourage vandalism to the extent that is possible to avoid a high level of surveillance and operating requirements.**

Users will be encouraged to assist in the maintenance and development of recreation sites and facilities.

FW-014 **The service level for administration, operation and maintenance of developed sites shall be based on site capacity, site protection needs, and seasonal demands by the public for use. Selected sites should be open for public use during the managed use season, at the minimum level of service specified below:**

- **Administration - Administration of public use at developed recreation sites shall include: inspection for hazards to public health and safety, compliance with applicable regulations, prevention of resource damage, and collection of fees when appropriate.**
- **Operations - Cleanup and sanitation of facilities at developed sites should occur to accommodate public use. This activity shall include testing of potable water when provided.**
- **Maintenance - Site facilities shall be maintained in a condition to meet standards for public health and safety. No more than 10% of facilities in any site should be below maintenance class II.**
- **Resource Management Treatment - Other resource management treatments should be accomplished for public safety and site or resource protection (e.g., vegetation management, rehabilitation).**

Dispersed Recreation

FW-015 **The Forest shall provide a broad range of recreation opportunities in a variety of settings, including Primitive, Semiprimitive Nonmotorized, Semiprimitive Motorized, Roaded Natural, and Roaded Modified Recreation Opportunity Spectrum (ROS) and Wilderness Resource Spectrum (WRS) classes.**

FW-016 **Determination of capacity for individual areas of the Forest shall be based on the appropriate ROS use coefficient as outlined in "Process for Estimation and Use of Dispersed ROS Capacity Coefficients" (Longcore, 1990).**

FW-017 **If use exceeds area capacity for a given ROS class, the following management actions, in order of priority, should be employed to address the impacts or effects to the recreation setting:**

1. **Inform public and restore site;**
2. **Regulate use;**
3. **Restrict number of users.**

FW-018 **Dispersed camp areas should be located to take advantage of topographic screening and be placed outside of foreground view (100 feet minimum) from lakes, streams, trails and key features.** Open campfires may be limited to designated sites.

FW-019 **Recreation users should be educated about the proper disposal of human waste and to the principles of no-trace camping (Pack It In - Pack It Out).** This may be accomplished through the use of public contact, brochures, and media.

FW-020 **Area and trail closures or restrictions should be based upon the mandatory and discretionary planning criteria listed in FSM 2355.12.**

FW-021 **Visitor contact shall be made for the purposes of:**

- **Informing users of area management goals and objectives;**
- **Encouraging user behavior that is respectful of area resources;**
- **Ensuring that visitor activities are in compliance with established standards;**
- **Emphasizing user safety.**

FW-022 **The Forest Service shall assist within its capacity and as requested by the County Sheriff in search and rescue and evacuation operations.**

Off-Road Vehicle Recreation

FW-023 **Recreation Access and Travel Management Guides shall be developed by each Ranger District.** These guides will identify specific areas, roads, trails and water surfaces that are open, restricted, or closed to motorized and nonmotorized mechanical conveyance or watercraft and conditions of use.

FW-024 **A diversity of off-road vehicle recreational opportunities should be provided across the Forest where consistent with the criteria specified in FSM 2355.12.** These criteria include:

- The use is compatible with established land management and resource objectives.
- The use is consistent with the capability and suitability of the resources.
- There is demonstrated demand which cannot be better satisfied elsewhere.

FW-025 **The monitoring activities established in Chapter V of the Forest Plan and management review procedures should be used to evaluate off-road vehicle use effects, and enforcement of restrictions and closures.**

FW-026 **Areas closed or restricted to off-road vehicle use shall be posted.** A brief explanation of the reasons for the closure will also be posted.

Cave Management

FW-027 **Caves should be managed in partnership with caving organizations, scientists, and outdoor recreationists.** A public education program will ensure an understanding of the value and the wise and safe use of these irreplaceable resources.

FW-028 **Significant and potentially significant caves should be protected and managed in accordance with the Federal Cave Resources Protection Act of 1988.** Surveys will be conducted to determine the significance of all caves which have been found on the Forest and the list will be periodically updated.

FW-029 **A management plan should be developed for each significant cave which includes an inventory and map of cave resources, proposed research and monitoring programs, and when necessary, a cleanup or restoration program.**

FW-030 **Access should be determined by the cave's capacity to withstand the impacts of visitation and should be documented in the management prescription.**

FW-031 **The location of caves should be kept confidential when needed to protect major archaeological sites, habitat for endangered wildlife, sensitive cave biota, or unique geological features.**

FW-032 **Measures for the protection of caves should be incorporated into project plans for road construction, timber harvest, tree planting, and blasting near caves; and any activity which could change cave temperatures and drainage patterns.**

FW-033 **Communication and cooperation between the Forest Service, caving organizations, and recreationists should be fostered.** Exchanged information will not be made public if it could lead to the degradation of sensitive caves.

FOREST TRAIL SYSTEM

FW-034 **The Forest shall provide for the use of the existing trail system that serves the needs of recreationists and satisfies demand levels for a wide range of trail related motorized and non-motorized activities consistent with individual management area objectives.** Management of trails within Wilderness is provided for in Wilderness Management Areas 1a-1d, and in separate Wilderness Management Plans included in Appendix A. Wilderness and non-Wilderness trails are displayed on the appended supplemental trails map.

Trail System Planning

FW-035 **Through the development of trail management guides, trail system planning should determine:**

- **Specific trail management objectives,**
- **Types of use,**
- **The preferred long-term location, and**
- **Operation and maintenance needs.**

FW-036 **Integrated trail and transportation system planning should minimize existing and future road crossings and other trail/road related conflicts.**

FW-037 **Trail relocation should place a trail in its optimum location considering recreation and other resource management needs and objectives.**

Operation and Maintenance

FW-038 **All trails included in the Forest trail system should be inspected annually to identify trail maintenance needs.**

FW-039 **Operation and maintenance activities should be conducted:**

- **In a manner consistent with trail management objectives,**
- **To protect trails as well as other resource values, and**
- **To meet requirements for user safety.**

Trail Displacement

FW-040 **Displacement of Forest trails by new roads should be avoided wherever possible. The need for displacement of a trail segment by a new road should be evaluated and documented through an interdisciplinary analysis.**

FW-041 **Where displacement does occur and recreation-use levels warrant, new trails should be constructed to:**

- **Replace lost trail sections,**
- **Protect the trail systems integrity, and**
- **To ensure quality recreation opportunities.**

FW-042 **When trail access and use is interrupted by management activities, a temporary trail closure should be declared. When a closure would remain in affect for longer than one season, a detour should be provided.** Public notification will be given where trail closures and detours are in affect. A "season" for purpose of trail management is usually considered as about 3 months. Generally, trail access closures and detours will be signed at trailheads, trail junctions, and at junctions along the primary access route.

Trail Management Classification

FW-043 **All existing and proposed non-wilderness trails, or trail segments, shall be assigned a trail management classification.**

FW-044 **The assignment of trail segments to one of four trail management classes shall be coordinated with the objectives and standards of management areas they traverse.** This assignment process will take into account types of trail use, trail difficulty, and the continuity of trail experiences to be provided on trails that pass through one or more management areas as well as trails that connect important recreation-use areas. The assignment of trails to one of the four management classes will also take into account public sensitivity to trail management issues.

Forest Development Trails

Trail Corridor Width

FW-045 CLASS I-IV **Trail corridors should be identified by an interdisciplinary process with consideration for public concerns and interests.** Trail corridors will vary in width from 100 feet to a maximum of 300 feet each side of the trail. Actual corridor width will be based on trail management objectives, public sensitivity and topographic and vegetative screening. Site specific cases will vary from maximum and minimum widths to address special trail management needs, opportunities, or agreements.

Timber Harvest

FW-046 CLASS I-IV **Scheduled even-aged timber harvest should not exceed the specified amount of the suitable and available area within each trail class during the first 10 years following plan implementation. The harvest rate percentage, applicable to individual trail segments, for each trail class is as follows:**

CLASS I	**0%**
CLASS II	**5%**
CLASS III	**7%**
CLASS IV	**10%**

FW-047 **The amount of trail frontage affected by harvest activities should be limited to 600 lineal feet per mile per 10 year period.**

Some variation in harvest rate is permitted in consideration of uneven-aged silvicultural systems, difference in rotation length due to site conditions or species dependent growth rates and to assure operational feasibility of harvest treatments.

Size of treatments will be based on such factors as corridor width, topographic and vegetative screening, adjacent conditions, level of recreation use/sensitivity, and related trail objectives.

FW-048 **Although no timber harvest is programmed for CLASS I trails, silvicultural treatments should be employed, as necessary, to maintain or enhance recreation opportunities and achieve trail related objectives.**

Road Crossings

FW-049 CLASS I-IV **New permanent road crossings should be minimized and existing local roads should be closed where appropriate. Temporary road crossings of trail corridors should be rehabilitated.**

In CLASS I trail corridors, preferred crossings are no closer than 1 mile of trailheads, semiprimitive recreation areas or Wilderness boundaries or two miles of an existing road crossing.

In CLASS II and III trail corridors preferred crossings are no closer then one-half mile of trailheads, semiprimitive recreation areas, or Wilderness boundaries or within 1 mile of an existing road crossing.

To minimize the effect of road crossings on trail facilities and user experiences, the following is the preferred relationship of road and trail locations in order of priority:

- No new road crossings or roads in the trail corridor.
- Parallel road located below trail.
- Parallel road located above trail.
- Road crossings should occur at right angles to the trail.
- Road replaces a short segment of trail.

Visual Quality Objective (VQO)

FW-050 CLASS I-IV **Trail corridor management activities and practices shall be commensurate with the VQO assigned to each trail class. Where trails pass through a management area with a more restrictive standard, the more restrictive standard shall apply. The Visual Quality Objective for each trail is as follows:**

CLASS I-II	**Retention**
CLASS III	**Partial Retention**
CLASS IV	**Modification**

Projects will be designed to minimize form, line, color and textural contrast of harvest or salvage treatments with the character of the surrounding landscape, through manipulation of edge effect, shape, size, scale, and spatial distribution of treatments commensurate with the specified VQO.

Recreation Opportunity Spectrum (ROS) Class

FW-051 CLASS I-III **Trail corridor activities and management practices shall provide at least a physical setting for Roaded Natural ROS class opportunities. Where trails of this class pass through a management area with a more restrictive standard, the more restrictive standard shall apply.**

FW-052 **Alterations within the trail corridors should be shaped and blended in a manner consistent with the ROS setting and the desired visual condition specified for each trail management class.**

FW-053 **Facilities provided at trailheads should be moderate in amount and complexity for user comfort and convenience. Generally native and or rustic materials should be used for trailhead facilities and markings.**

Non-native materials may be appropriate for some viewpoints, interpretive areas, barrier-free facilities, highly developed sites, or other special-purpose areas.

FW-054 CLASS IV **Trail corridor management activities and practices shall provide at least a physical setting for Roaded Modified ROS class opportunities. Where trails pass through a management area with a more restrictive standard, the more restrictive standard shall apply.**

FW-055 **Alterations within the trail corridor should be shaped and blended in a manner consistent with the ROS setting and the desired visual condition.**

FW-056 **Facilities provided at trailheads should be simple, and informational and be constructed of native and/or rustic materials.**

National Scenic and National Recreation Trails

FW-057 **Trail segments identified as National Scenic and National Recreation Trails shall be managed to meet the objectives of the National Trail System Act of 1968. To assure compliance with the National Trail System Act, National Scenic and National Recreation Trails located outside Wilderness, shall be assigned to trail management Class I.** The following Trails or Trail segments are designated as National Scenic (NST) or National Recreation Trails (NRT):

Trail Name	Designation
Pacific Crest	NST
Breitenbush	NRT
Lava River	NRT
McKenzie River	NRT
Fall Creek	NRT

SCENIC RESOURCES

Visual Quality Objectives

FW-058 **Management activities shall be designed and implemented to achieve or exceed the assigned Visual Quality Objective (VQO) for the area.**

FW-059 **The assigned VQO by Management Area shall be as shown in Table IV-24.**

Table IV-24. Visual Quality Objectives by Management Area

VQO	Management Area
Preservation	1a, 1b, 1c, 1d, 2a, 2b, 4, 5a, 5b, 6a, 7, 10d
Retention	6b, 8, 9a, 9d, 10c, 10e, 10f, 11e[1], 11f[1]
Partial Retention	6c, 9b, 9c, 10a, 10b, 11c[1], 11d[1], 12a, 12b, 15
Modification	11a[1], 11b[1]
Maximum Modification	13a, 13b, 14a, 14b

[1]Management emphasis in these areas will be to coordinate with other resource programs to ensure that Visual Quality Objectives are maintained.

FW-060 **Opportunities to restore landscapes containing undesirable visual impacts to a desired visual quality level should be identified during project planning.** This may include short-term implementation practices such as rehabilitation and enhancement (See Agricultural Handbook 462, USDA 1974).

FW-061 **The following descriptions shall be used to design and implement management activities to meet assigned visual quality objectives:**

Preservation

FW-062 **This VQO allows ecological changes only. Management activities, except for very low visual-impact recreation facilities, should be prohibited.**

Retention

FW-063 **Activities should only repeat the natural form, line, color, and texture which are frequently found in the characteristic landscape. Changes in their qualities of size, amount, intensity, direction, and pattern should not be evident.**

FW-064 **Mitigation treatments for impacts to the visual resource should be accomplished either during operation or immediately after**

Partial Retention

FW-065 **Activities should repeat form, line, color, or texture common to the characteristic landscape. Changes in their qualities of size amount, intensity, direction, and pattern should remain visually subordinate to the characteristic landscape. Activities may also introduce form, line, color, or texture which are found infrequently or not at all in the natural landscape, but they should remain subordinate to the visual strength of the characteristic landscape.**

FW-066 **Mitigation treatments for impacts to the visual resource should be accomplished as soon after project completion as possible or within one year.**

Modification

FW-067 **Activities which alter vegetation and land forms should borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Facilities, including roads and signs, should be designed to be visually compatible with the natural surroundings.**

FW-068 **Mitigation treatments for impacts to the visual resource should be accomplished within two years after project completion.**

Maximum Modification

FW-069 **Activities which alter vegetation or land forms, and dominate the characteristic landscape should be allowed. However, when viewed as background, the visual characteristics should be those of natural occurrences within the surrounding area or character type.** When viewed as foreground or middle ground, they may not appear to completely borrow from naturally established form, line, color, or texture. Alterations may also be out of scale or contain detail which is incongruent with natural occurrences as seen in foreground or middle ground.

FW-070 **Introduction of structures, roads, slash, and root wads should remain visually subordinate to the proposed composition as viewed in background.**

FW-071 **Mitigation treatments for impacts to the visual resource should be accomplished within five years after project completion.**

Rehabilitation

FW-072 **Short-term activities designed to restore landscapes containing undesirable visual impacts to a desired visual quality should provide a more visually desirable landscape in the interim.** Rehabilitation may be achieved through alteration, concealment, or removal of obtrusive elements.

Enhancement

FW-073 **Short-term activities aimed at increasing positive visual variety where little now exists should create additional variety of forms, edges, textures, patterns,**

or spaces. Enhancement may be achieved through addition, subtraction, or alteration of vegetation, rock, earthforms or structures.

National Forest Scenic Byways

FW-074 **Implementation Guides shall be prepared for each established National Forest Scenic Byway describing the site-specific management objectives, enhancement program, and other acceptable uses and activities.** Established Scenic Byways on the Forest are the Robert Aufderheide Memorial Drive and the McKenzie Pass - Santiam Pass Loop. More Byways may be designated during the life of this Plan.

FW-075 **Project planning, preparation, implementation and monitoring shall be accomplished to maintain the VQO and ROS objectives of all management areas within the designated Scenic Byway corridor.** This classification does not preclude other activities such as creating new views, vistas, or filtered views; interpretive programs; wildlife projects, meadow habitat improvement; or timber harvesting.

WILD AND SCENIC RIVERS

The rivers shown in Table IV-25 are identified as eligible or designated as study rivers under the Wild and Scenic Rivers Act. The segment description, outstandingly remarkable features, and acres are listed in FEIS, Appendix E, Wild and Scenic Rivers. Outstandingly remarkable values and potential river classifications will be verified by resource assessments completed during suitability studies. Changes in potential river classifications will result in a Forest Plan amendment.

Table IV-25. Wild and Scenic Eligible or Designated as Study Rivers

River	Segment	Classification
Little North Santiam	Battle Axe Creek to Forest boundary	Scenic
Opal Creek	Opal Lake to confluence with Battle Axe Creek	Wild
South Fork Breitenbush	Russell Lake to Wilderness boundary Wilderness boundary to Breitenbush River	Wild Scenic
Breitenbush River	North Fork Breitenbush River to Detroit Reservoir	Recreation
North Santiam River	Headwaters to Wilderness boundary Wilderness boundary to Highway 22 Highway 22 to Rainbow Creek	Wild Scenic Recreation
Quartzville Creek	Headwaters to un-named creek West of Bruler Creek Un-named creek west of Bruler Creek to Forest boundary	Recreation Recreation
Middle Santiam River	West boundary of Section 31 to Wilderness boundary Wilderness boundary to Forest boundary	Scenic Wild
South Santiam River	Headwaters Sevenmile Creek to Squaw Creek Sevenmile Creek to Forest boundary	Wild Recreation

Table IV-25 Cont. Wild and Scenic Eligible or Designated as Study Rivers

River	Segment	Classification
Middle Fork Willamette River	Lower Timpanogas Lake to Echo Creek	Scenic
	Echo Creek to Hills Creek Reservoir	Recreation
Blue River (Study)	Headwaters to Blue River Reservoir	Recreation
South Fork McKenzie River (Study)	Headwaters to Wilderness boundary	Wild
	Wilderness boundary to Cougar Reservoir	Recreation
	Cougar Dam to McKenzie River	Recreation

Wild Rivers

FW-076 **The potential Wild classification attributes within a 1/4-mile wide corridor on each side of the eligible or study river segments shall be protected pending Congressional action on river designation or until determined to be unsuitable. Comply with all standards for Wild rivers as specified in FSH 1909.12 Chapter 8 (1987) and standards specified in Management Area 6a.**

Scenic Rivers

FW-077 **The potential Scenic classification attributes within a 1/4-mile wide corridor on each side of an eligible or study river segment shall be protected pending Congressional action on river designation or until determined to be unsuitable. Comply with all standards for Scenic rivers as specified in FSH 1909.12, Chapter 8 (1987) and standards specified in Management Area 6b.**

Recreation

FW-078 **The potential Recreation classification attributes within a 1/4-mile wide corridor on each side of eligible or study river segments shall be protected pending Congressional action on river designation or until determined to be unsuitable. Comply with all standards for Recreation rivers specified in FSH 1909.12, Chapter 8 (1987) and standards specified in Management Area 6c.**

SOIL AND WATER QUALITY

Soil Productivity

FW-079 **Land management activities shall be planned and conducted to maintain or enhance soil productivity and stability.**

FW-080 **Forest management activities shall meet or exceed the stated objectives in the Organic Administration Act of 1897, the Multiple Use Sustained Yield Act of 1960, NFMA of 1976, FSM 2550, and FSM 2520 R-6, Supplement 50.**

Detrimental Soil Conditions

FW-081 **The total area of cumulative detrimental soil conditions should not exceed 20% of the total acreage within the activity area, including roads and landings. Severely burned areas should not exceed 10% of an activity area.** Detrimental soil conditions include compaction, displacement, puddling, and severely burned soil layers. These conditions are defined as follows:

- **Compaction**. An increase in soil bulk density of 15% or more and/or by a reduction of macropore space of 50% over the undisturbed soil.
- **Soil puddling**. A physical change in soil properties due to shearing forces that destroy soil structure and reduce porosity.
- **Displacement**. Removal of more than 50% of the topsoil or humus enriched soil horizons from an area of 100 square feet which is at least 5 feet in width.
- **Severely burned**. Soils are considered to be severely burned when the top layer of mineral soil has been significantly changed in color, usually to red, and the next 1/2 inch blackened from organic matter charring by heat conducted through the top layer.
- **Activity Area**. The total area for which a ground-impacting activity is planned. Examples of ground-impacting activities are individual units of a timber sale, slash disposal project, site preparation project, or grazing allotment, including the transportation system (and landings) directly in and adjacent to the activity area.

FW-082 **Past, present, and future activities shall be considered when evaluating soil conditions. (BMP reference: T-5, T-9, T-11, T-12, F-2, F-3)**

FW-083 **Tractor operations should not occur on ground with slopes greater than 30%.**

Soil Erosion

FW-084 **To minimize off-site movement of soil, management activities shall be planned to retain the soil duff and litter using the following limits:**

- **Mineral soil exposed on soils classed low-to-moderate surface erosion hazard should not exceed 40%.**
- **Mineral soil exposed on soils classed high surface erosion hazard should not exceed 30%.**
- **Mineral soil exposed on soils classed very high surface erosion hazard should not exceed 15%.**
- **Duff retention on cold and/or wet soils should be evaluated in each case, but generally retention of higher amounts of duff will be required.**

Surface erosion hazard is defined in the Willamette National Forest Soil Resources Inventory (SRI). Permanent facilities and temporary roads are excluded. (BMP reference: T-13, T-11, T-12, VM-1)

Nutrient Cycling

FW-085 **Management activities shall be planned to maintain enough large woody material (dead and down) to maintain a healthy forest ecosystem and ensure adequate nutrient cycling. Site specific needs shall be considered in environmental analysis** (See Forest-wide Standards and Guidelines for Biological Diversity).

Mass Movement

FW-086 **Mass movement shall be managed to meet Forest standards for soil productivity, water quality, riparian condition, and to protect public safety, roads, and facilities.**

Water Quality

FW-087 **Management activities shall analyze, protect, enhance, treat, and evaluate soil and water resources and monitor the effects of the practices (36 CFR 219.13(f)).**

FW-088 **Management activities shall comply with state and federal requirements for protection of waters of the State of Oregon through planning, application, and monitoring of Best Management Practices (BMPs).**

FW-089 **Management activities shall be in conformance with the Clean Water Act of 1972, as amended (1977 and 1982), Oregon Administrative Rules (Chapter 340-41-001-975), and regulations or federal guidance issued thereto. Also as described in 1990 Memorandum of Understanding pursuant to Section 319 of the Clean Water Act.**

Use the existing agreed upon process to implement the State Water Quality Management Plan on Lands Administered by the Forest Service. This is described in the Memorandum of Understanding (MOU) between the Oregon Department of Environmental Quality and U.S. Department of Agriculture, Forest Service (2/12/82 and 12/7/82), and "Attachments A and B" referred to in this MOU. (See Implementation Plan for Water Quality Planning on National Forest Lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal Lands, respectively.)

FW-090 **In cooperation with the State of Oregon, the Forest shall use the following process:**

1. **Select and design BMPs based on site-specific conditions, technical and economic feasibility, and the water quality standards for those waters potentially impacted.**

2. **Implement and enforce BMPs.**

3. **Monitor BMPs to ensure correct application and effectiveness as designed in attaining water quality standards.**

4. **Mitigate to minimize impacts caused by activities when BMPs do not perform as expected.**

5. **Adjust BMPs when there is evidence that beneficial uses are not protected and water quality standards are not achieved. Evaluate the adequacy of water quality criteria for assuring protection of beneficial uses. Recommend adjustment to water quality standards as is appropriate.**

FW-091 **The Forest shall develop and maintain a contingency plan to respond to spills of hazardous material which may adversely affect water quality.**

FW-092 **Water quality shall be protected with Best Management Practices. (See General Water Quality Best Management Practices, Pacific Northwest Region, 11/88.)** Included in the BMP Handbook is a description of the process, limitations and use of these BMPs. Each BMP listed includes the Title, Objective, Explanation, Implementation, Responsibility, and Monitoring. Evaluations of ability to implement and estimated effectiveness are made at the project level. Not all of the general BMPs listed will normally apply to a given project, and there may be specific BMPs which are not represented by a general BMP.

FW-093 **The potential for cumulative effects of operating and scheduling practices on beneficial uses and stream channel conditions shall be considered in project design. The potential for cumulative effects of past, present and reasonably foreseeable projects shall be assessed on the watershed area which contributes to the potential effect, including private land where appropriate. The assessment should consider the effects of management practices on riparian conditions, mass movements, and hydrological recovery. Activities on National Forest lands should be dispersed in time and space to the extent practicable, and to the extent needed to protect beneficial uses. In areas with intermingled ownerships scheduling of activities should be coordinated.** (BMP W-5)

Road Construction and Maintenance

FW-094 **Road design, construction, and maintenance shall be implemented with Best Management Practices to meet State Water Quality standards.** Additional BMPs may be appropriate in many situations.

FW-095 **Culvert design shall consider upslope snow accumulation in created openings where the potential exists for increased peak flows during rain on snow events.** (BMP R-1)

FW-096 **No uncompacted soil should be side-cast on slopes over 55%, except when evaluated on a site-specific basis by an interdisciplinary group, including a watershed specialist.** (BMP R-5)

FW-097 **Existing roads which contribute sediment to streams should be considered for reconstruction to stabilize surfaces, fills and drainage structures.** (BMP R-7)

FW-098 **Stable fills shall be constructed across all stream crossings.** (BMP R-9)

FW-099 **Measures described in Section 204 *Soil Erosion and Water Pollution* in "Forest Service Specifications for Construction" shall be implemented as appropriate.** Additional project specifications may be designed as needed for site-specific Best Management Practices. (BMP R-9)

FW-100 **Drainage structures should be inspected annually unless identified as low risk.** Priorities on use of road maintenance funds will be based on resource protection needs such as maintaining drainage structures. (BMP R-14)

FW-101 **Temporary roads should be closed as part of the project work. Methods used, timing, and mitigation measures should be in accordance with the site-specific project plan. Such roads shall be designed to reestablish vegetative cover on the disturbed area as soon as practicable, not to exceed 10 years after the termination of the contract permit, or lease (36 CFR 219.27(a)(11)).**

FW-102 **Permanent drainage structures shall be removed from temporary roads. Measures shall be taken to ensure that subsurface and surface drainage patterns are reestablished to minimize the risk of future mass movement, surface erosion, and channel erosion. (BMP R-23)**

Streamside Protection

FW-103 **Class IV stream channel functioning and streambank stability shall be maintained or enhanced.** The role of future input of woody material, and the role of root strength of live trees will be considered.

FW-104 **On potentially highly unstable land along steambanks, all trees should be retained to maintain stability and provide long-term input of large woody material to the stream. On moderately stable land along streambanks, some trees should be retained in critical areas to provide stability. The long-term stability of the channel should be evaluated prior to salvage of trees adjacent to Class IV streams.** (BMP T-7)

Streamside areas along Class I, II and III and unstable IV streams are described in Riparian Management Area 15.

Management of Mass Movement

FW-105 **Areas which are identified as being unsuited for timber production because of irreversible damage to soil and water shall be excluded from timber harvest units.** (BMP T-6)

FW-106 **During project analysis, areas with a high probability of mass movement which have not been identified as unsuitable due to soil conditions, shall be evaluated for timber suitability on a site specific basis. Areas identified as unsuitable for**

timber production shall be documented and removed from the acres suitable for timber management.

FW-107 **For areas that are potentially highly unstable but are suited for timber harvest, appropriate measures shall be taken to reduce the risk of failure.** Potentially highly unstable lands are typically steep slopes with soft bedrock material.

FW-108 **Sites should be evaluated where timber harvest, road building, or other management activities could alter the hydrologic characteristics or soil strength characteristics to the extent that there may be a probability failure.** Retention of added selected hardwood or conifer trees along with road construction restorations could help eliminate failure.

FW-109 **Analysis of stability concerns shall consider that the occurrence of mass movements is dependent on subsurface water levels (storm event intensity and duration), root strength, soil cohesion characteristics, and slope.**

FW-110 **Analysis shall consider that mass movement may occur 5 to 20 years after removal of the trees, when a large storm could coincide with minimum root strength.**

FW-111 **Timber sale planning shall consider hydrologic processes.**(BMP T-1)

FW-112 **Sewage treatment and disposal facilities shall be approved by the Department of Environmental Quality or its contract agents and shall be in compliance with rules of the Environmental Quality Commission.**

Instream Flow

FW-113 **Instream flow on National Forest System Lands shall be protected through environmental analysis of proposed water uses, diversions, transmissions applications, and renewal of permits.** Instream flow will be protected by the Forest response to the state on applications, assertion of claims for this water under federal or state laws where applicable, providing special requirements in use permits, or reaching formal agreements.

Watershed Enhancement

FW-114 **When water quality objectives for water temperature, turbidity, and sediment levels cannot be met, enhancement projects should be implemented.** Enhancement may include stabilization of streambanks, road fills and cutbanks, or riparian treatments.

FISHERIES

FW-115 **All project proposals in or adjacent to anadromous fish habitat shall implement the adopted Northwest Power Planning Council natural fish production objectives.**

FW-116 **Anadromous fish habitat improvement projects shall be prioritized using the Northwest Power Planning Council natural production objectives.**

FW-117 **Fish habitat improvement proposals shall be based on watershed limiting factor analysis.** Projects will be implemented by trained and experienced personnel who can translate species needs to site specific prescriptions. Each project proposal will document the method, intensity, and frequency of sampling; data storage and analysis responsibility.

FW-118 **The Forest shall develop and maintain an inventory of potential habitat rehabilitation and improvement activities to meet Plan goals, to facilitate program planning, and to aid in developing partnerships to share costs. Priority should be given to indicator species and species on the Regional Forester's Sensitive Species list.**

FW-119 **Recreation and wilderness objectives, lakeshore rehabilitation needs and lake productivity shall be used to develop short- and long-term stocking strategy for high elevation lakes.**

FW-120 **Opportunities to improve the fish production potential of reservoirs should be identified and included in annual fisheries program development during the planning period.** Fisheries potential of reservoirs on the Forest are not fully utilized and will benefit from active management and publicity.

WILDLIFE MANAGEMENT

FW-121 **Fish and wildlife habitat resources on the Forest, in particular the habitat of management indicator species, shall be managed in cooperation with State and Federal fish and wildlife agencies. At the Forest level, fish and wildlife habitat shall be managed to maintain viable populations of all existing native and desired non-native plant and animal species. Distribution of habitat shall provide for species viability and maintenance of populations throughout their historic range on the Forest.** Monitoring and inventory plans have been developed for indicator species and others (See Chapter V).

The Forest will adhere to all pertinent State statutes and laws. This includes ORS 496.012, which deals with providing for viable populations of all species of fish and wildlife and preventing the serious depletion of any indigenous species.

Wildlife Tree (Snag) Habitat

FW-122 **Habitat capability for primary cavity excavators (indicators for cavity-nesting species) shall be maintained to provide for at least 40% or greater potential populations. Habitat shall be provided and monitored at the subdrainage level.**

FW-123 **Selection of live or dead wildlife trees should be based on the Region 6 publication *Guidelines for Selecting Live or Dead Standing Tree Wildlife Habitat*. Replacement trees (those trees needed to provide snags in future decades) should be sound and have little evidence of sweep, root rot, or other defects that will significantly affect the longevity of the standing tree.** Replacement trees need to have a low risk of falling and a high potential of lasting through the timber rotation. Trees that currently have moderate to high levels of rot will deteriorate rapidly and may not meet the long term snag habitat requirements.

FW-124 **The Willamette National Forest Wildlife Tree Guide shall be revised within one year after approval of the Forest Plan.** This guide will display the species present, habitat requirements and differences in high elevation and low elevation habitat types.

FW-125 **All timber harvest units shall provide snag habitat capable of supporting at least 20% or greater potential populations of cavity-nesting species.** Older timber sale units (pre late 1970s) often contain low numbers of wildlife trees. In new sale areas, additional wildlife trees may need to be left to offset lower numbers in older units in the vicinity. In these situations the objective is to maintain an average 40% population level within as small an area as feasible (such as a small subdrainage).

FW-126 **Distribution of snag habitat within harvest units should at least meet the territory requirements of the species with the most limited territory.** The red-breasted nuthatch has been identified as the primary cavity excavator on the Forest with the most limiting territory size. A 5-acre territory is used to determine the distribution requirement.

FW-127 **Designated wildlife trees shall be protected during forest management activities including wood cutting.**

FW-128 **Dead, defective, and live green trees retained for current snag habitat and future replacement snag habitat shall be greater than 18 inches in diameter (DBH) or the largest size available within the stand being treated.** Some lodgepole pine and mountain hemlock stands may not contain trees greater than 18 inches in diameter at final harvest.

FW-129 **Snags with the largest DBH should be selected whenever possible.**

FW-130 **Only snags in decay classes I, II, or III and greater than 20 feet tall shall be counted toward meeting habitat requirements for cavity nesting species.** Snags taller than 40 feet provide the best nesting habitat for the most cavity nesting species and will be preferred habitat.

FW-131 **Snags in decay classes IV and V provide foraging habitat for insectivorous species and should be retained wherever possible.**

FW-132 **Operator select C-clauses should be used for implementing timber sale area wildlife tree prescriptions.** Placement of wildlife trees may present operational safety concerns that may be dealt with more effectively by the operators during harvest operations than by the Forest during presale activities. Monitoring will be used to measure the effectiveness of operator placement and retention of leave trees.

Other Raptors (Birds of Prey), and Colonial Nesting Birds

FW-133 **Active roost and nest sites (including rookeries) shall be protected. Timber management and road building activities should be prohibited or curtailed during the nesting season.** Timber harvest may be foregone in a primary zone extending up to 500 feet from the nest or roost site. Where activities of significant disturbance and duration are near active roost sites it may be necessary to establish a secondary Restricted Activity Zone outside the primary zone. This secondary zone could range up to 1,000 feet

or more from the nest or roost site, depending on the individual situation. Timing or duration of operations may be restricted within the secondary zone.

FW-134 **Coordination and/or consultation with State and Federal wildlife biologists should be done as appropriate on an individual project basis.** The intent of this guideline is to ensure protection as provided by the Migratory Bird Act.

DEER AND ELK MANAGEMENT

Management objectives for deer and elk habitat apply to specific mapped "Emphasis Areas" within the Willamette National Forest. The mapped areas consist of one to several subwatersheds and range from 1,000 to 15,000 acres in size. Each emphasis area may overlap one to several management areas.

Each emphasis area has been assigned a rating of high, moderate, or low. The following standards and guidelines may apply to all emphasis areas or just to one specific rating. High Emphasis Areas may include up to 30% lands with habitat potential more typical of Moderate or Low Emphasis Areas. Most Moderate and some Low Emphasis Areas have inclusions of lands which have habitat potential typical of High Emphasis Areas.

The standards and guidelines have been developed in cooperation with the Oregon Department of Fish and Wildlife. Habitat conditions will be maintained or enhanced within each emphasis area to meet habitat effectiveness objectives and support the potential populations of deer and elk. Habitat effectiveness objectives are assigned to each emphasis rating. However, the standards and guidelines will provide a process for changing the habitat effectiveness objectives of individual emphasis areas.

Standards and Guidelines Common To All Emphasis Areas

FW-135 **Districts should evaluate and implement projects that establish increasing trends in habitat effectiveness with the exception of Low Emphasis Areas.** Habitat effectiveness may show decreasing trends within Low Emphasis Areas.

FW-136 **Differing Habitat Effectiveness (HE) objectives for cover quality (HEc), forage quality (HEf), open roads (HEr), and size and spacing of cover and forage areas (HEs&s) may be established for individual emphasis areas provided that site specific analysis, conducted in cooperation with Oregon Department of Fish and Wildlife and interested publics, indicates appropriate habitat objectives can be achieved at the changed HE values.** The establishment of changed HE objectives may be most appropriate in High Emphasis Areas which have inclusions of lands with habitat potential more typical of Moderate or Low Emphasis Areas. Moderate and Low Emphasis Area HE objectives provide flexibility to manage inclusions of high value habitat at HE values established for High Emphasis Areas.

FW-137 ***A Model to Evaluate Elk Habitat in Western Oregon* shall be used to evaluate effects of projects occurring within the emphasis area boundaries and for monitoring trends in achieving habitat effectiveness objectives. The exception to this standard is that the HE value for cover quality within High Emphasis Areas shall be assessed on the winter range only.**

FW-138 **Monitoring of forage quality on a variety of vegetation types and conditions and subsequent refinement of the forage quality rating table should be given high priority. Amendments to the model shall be incorporated as they are approved.** More information is needed to accurately rank and score all potential forage enhancement activities. The existing model assumes differences in forage quality resulting from enhancement activities, and that these differences apply to summer and winter periods.

FW-139 **Projects within High Emphasis Areas that significantly impact habitat components shall analyze the cumulative effects of the proposed and projected activities for the next 10 to 15 years on these components. The analysis should include a projected schedule of proposed activities (including enhancements) and their effect on the overall habitat objective.** This analysis and schedule will provide a basis for planning and scheduling future activities within High Emphasis Areas.

FW-140 **Habitat effectiveness analysis for projects (i.e., timber harvest, road construction/reconstruction, and habitat enhancement) shall be conducted to include the entire emphasis area. An exception to this standard shall apply to the analysis of cover quality within High Emphasis Areas.** Project level decisions may be for activities which occur on all or a portion of the area, but decisions will generally be tiered to a habitat effectiveness analysis for all of the affected emphasis area.

FW-141 **Project planning and the Willamette National Forest Road Closure Policy should be used to determine locations, seasons, types, and extent of access management structures and/or signing within each emphasis area.** Closures will generally be located on dead end spur roads. Few collector roads are expected to be closed.

FW-142 **Use of closed roads for agreed-to Forest management activities (timber harvest, tree planting, slash burning) should not constitute an upward change in the HE value for roads.** The intent of this standard is to provide security for elk populations while allowing for normal forest management activities.

FW-143 **Seasonal restrictions should be considered for activities such as road construction and timber harvest activities when they occur within sensitive sites** (i.e., key wintering areas, calving grounds, migration corridors).

FW-144 **Where access management structures have been placed, access restrictions should apply to all activities, except emergency vehicles, during the general rifle elk season.** The intent is to provide a balance of walk-in hunting and drive-in hunting opportunities. Site specific analysis will determine the locations of open and restricted access areas.

FW-145 **Forage enhancement activities which require burning to prepare a seed bed for establishment of grasses, legumes, and/or other high quality forage species should be located within winter range. Emphasis should be placed on establishment of plant species native to the Cascade Range.** Burning may not be required to establish adequate beds of forage species.

FW-146 **Compensation between the habitat variables should be used to evaluate the management activities which contribute the highest net gain in habitat effectiveness, and thus provide high cost/benefit returns.**

High Emphasis Areas

FW-147 **Habitat conditions shall provide high quality cover within the winter range. High quality forage should be available throughout the area.** Access Management will be used to provide escapement and security for deer and elk occurring within the area. Management intent is to increase or maintain an "overall" Habitat Effectiveness Value (HE) for cover quality (HEc), forage quality (HEf), open roads (HEr), and size and spacing of cover and forage areas (HEs&s) within the "highly viable" range as described in *A Model to Evaluate Elk Habitat in Western Oregon.*

High Emphasis Areas will provide habitat capability for a potential population of two elk and ten deer per one hundred acres of winter range.

FW-148 **The habitat effectiveness objective for each variable** (HEc,HEf,HEr,& HEs&s) **should be within the range > 0.5 to 1.0. The overall habitat effectiveness value should be maintained above or increased to > 0.6 within the first 10 years of the planning period.** Exceptions may occur where opportunities to meet the habitat objectives are limited due to existing poor conditions and/or a limited amount of project activity within the planning period.

FW-149 **Within High Emphasis Areas, the Habitat Effectiveness Value of 0.5 for cover (HEc) shall apply to the winter range portion of the area.** The 0.5 value requires a significant portion of the cover acres to be in optimal thermal condition. The intent of this standard is to ensure that the optimal cover is located on the winter range, thereby providing its most important biological function for winter survival.

Moderate Emphasis Areas

FW-150 **Habitat conditions shall provide good quality cover and forage distributed within the emphasis area boundaries.** Management's intent is to increase or maintain an "overall" Habitat Effectiveness Value (HE) for cover quality (HEc), forage quality (HEf), open roads (HEr), and size and spacing of cover and forage areas (HEs&s) within the "viable" range as described in *A Model to Evaluate Elk Habitat in Western Oregon.*

Moderate Emphasis Areas will provide habitat capability for a potential population of 0.8 elk and four deer per 100 acres of winter range.

FW-151 **The habitat value for each variable should be within the range of > 0.4 to 1.0. The overall habitat effectiveness (HE) value for the emphasis area should be maintained above or increased to > 0.5 during the first 10 years of the planning period.**

Low Emphasis Areas

FW-152 **Habitat conditions provided may be of low quality for all four variables.** Management of resources other than deer and elk may result in a poor distribution of cover and forage. Where consistent with achieving other resource objectives, however, the quality of elk and deer habitat may be managed at as high a level of habitat effectiveness as possible.

Within Low Emphasis areas Habitat Effectiveness Values for cover quality (HEc), forage quality (HEf), open roads (HEr), and size and spacing of cover and forage areas (HEs&s) will be within the "marginal" range as described in *A Model to Evaluate Elk Habitat in Western Oregon*.

Low Emphasis Areas will provide habitat capability for a potential population of 0.01 elk and 0.5 deer per 100 acres of winter range.

FW-153 **The habitat effectiveness objective for each variable should be within the range of > 0.2 to 1.0. Where existing habitat conditions result in values below this range, an increasing trend should be established through project implementation.**

PROPOSED, ENDANGERED, THREATENED, OR SENSITIVE SPECIES

FW-154 **Proposed, endangered, threatened and sensitive species (PETS) shall be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, and Oregon Department of Agriculture. Legal and biological requirements for these plants and animals shall be met.**

FW-155 **Habitat for existing federally-classified threatened and endangered species shall be managed to achieve habitat and population objectives of recovery plans.**

Legal Requirements

FW-156 **Biological Evaluations shall be prepared for each project authorized, funded, or conducted on Forest land to determine the possible effects the proposed activity will have on proposed, endangered, threatened, or sensitive species (FSM 2672.4, including R-6 Supplement 47).** Several projects may be evaluated within the same assessment. For example, a timber sale Biological Evaluation may consider effects on post sale activities as well as the timber harvest and road building. The Biological Evaluation consists of five steps:

1. Prefield review of existing information.
2. Field reconnaissance of the project area.
3. Determination of whether local populations of endangered, threatened, proposed, or sensitive species will be affected by a project (consult with USDI Fish and Wildlife Service if endangered, threatened, or proposed species are found).
4. Analysis of the significance of project effects on local and total populations of sensitive species.
5. If Step 4 cannot be completed due to lack of information, a biological or botanical field investigation will be conducted to complete the analysis of significance.

FW-157 **If endangered, threatened, or proposed species are found in a project area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.45. Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).** Four interrelated factors determine the type of review and consultation procedures to follow in determining effects on listed or proposed species. They include: presence of listed or proposed species;

Forest Service determination of effect in the biological evaluation; type of project (construction or not); and extent of environmental impact (See FSM 2671.4 for detailed consultation procedures).

FW-158 **Species management guides should be prepared to address the effects of land management activities on local populations of sensitive species at a broader scale, and to identify opportunities to enhance and develop habitat.**

FW-159 **Lists of endangered, threatened and sensitive plant and animal species shall be maintained and updated annually.** Pertinent information will be submitted to the Regional Office for updating the Regional Forester's Sensitive Species Lists, and sent to the appropriate agencies for inclusion in State-wide data bases.

FW-160 **Forest personnel shall not identify specific location information that could jeopardize the welfare of a proposed, endangered, threatened, or sensitive species (FSM 2671.2).**

FW-161 **Inventories shall be conducted to verify presence or absence of proposed, endangered, threatened, and sensitive species on the Forest. Occupied essential habitat shall be protected through development of species management guides.**

Biological Requirements

The following standards and guidelines contain direction specific to the Threatened, Endangered, and Sensitive wildlife species on the Forest.

Peregrine Falcon (Endangered Species)

FW-162 **American peregrine falcons and their habitat shall be protected and managed in accordance with the Pacific Coast Recovery Plan 1982.** One peregrine falcon nest site is known on the Willamette National Forest, and additional potential nesting habitat does exist. **Twelve potential nest sites shall be maintained in suitable cliff habitats that have been identified through inventory.**

Bald Eagle (Threatened Species)

FW-163 **Bald eagles and their habitat shall be protected and managed in accordance with the *Pacific Bald Eagle Recovery Plan* (USDI Fish and Wildlife Service 1986) and the *Working Implementation Plan for Bald Eagle Recovery in Washington and Oregon* (The Bald Eagle Working Team for Oregon and Washington 1989).**

FW-164 **Habitat suitability of existing and potential nesting, foraging, and roosting sites in recovery areas as shown in Table IV-26 shall be maintained or enhanced.** Potential nesting, roosting, and foraging habitat has been designated within 1.1 miles of the following reservoirs, lakes, and rivers. Six known nest sites and 15 potential sites have been identified to date.

Table IV-26. Potential and Existing Bald Eagle Sites

Location	Potential Sites	Existing Sites
Detroit Reservoir	1	1
Green Peter Reservoir	1	0
Cougar Reservoir	2	0
Blue River Reservoir	2	0
Waldo Lake	1	1[1]
Fish Lake/Clear Lake	0	1
Lookout Point Reservoir	2	2
Hills Creek Reservoir	2	1
Upper McKenzie River	2	0
Middle Santiam River	1	0
South Santiam River	1	0
TOTAL SITES	15	6

[1]Nest site at Erma Bell Lakes.

FW-165 **At least 125 acres of nesting habitat shall be maintained for each potential nest site. Potential nesting habitat should possess mature or old growth forest characteristics as outlined by Anthony and Isaacs (1981).** Existing nest site zone sizes may vary reflecting topography, potential for timber blowdown, and location of important habitat components. For more specific direction refer to Bald Eagle Management Area (MA 8).

FW-166 **Forest land within 1.1 miles of identified lakes, reservoirs, and rivers should be considered potential bald eagle habitat.**

Northern Spotted Owl (Sensitive Species)

FW-167 **Spotted owl habitat shall be managed in accordance with direction specified in the Supplement to the Environmental Impact Statement for an Amendment to the Pacific Northwest Regional Guide (USDA 1988).** Spotted owl habitat areas (SOHAs) established to meet the Regional Guidelines are identified as part of Management Area 9 (MA 9).

FW-168 **The Forest shall assist the Regional Office in meeting the terms of the 1988 Interagency Agreement on spotted owl. The four agencies (USDA Forest Service, USDI Fish and Wildlife Service, Bureau of Land Management, and National Park Service) have agreed to cooperate in an effort to maintain population viability for spotted owls.**

FW-169 **A Biological Evaluation shall be prepared on ALL activities that may impact spotted owls. Project areas within suitable habitat shall be surveyed for the presence of spotted owls. Standards for the evaluation shall meet R-6 guidelines for field inventory and directives established in FSM 2670.**

FW-170 **Nest sites and Habitat Activity Centers (HACs) outside Management Area 9 (special wildlife habitat) shall be protected.** A HAC consists of an area of concentrated activity or use by a verified pair of spotted owls. A nest tree, natal area, or pair roost site will identify the center of activity.

FW-171 **Northern spotted owl pairs not within MA 9a shall be protected by deferring harvest and road building within at least a 330-foot radius of the identified habitat activity center.**

FW-172 **For disturbance activities (timber harvest, road building, trail construction/ maintenance, slash burning) near Habitat Activity Centers, operating restrictions shall apply within 1,320 feet of Natal Area boundaries.** Natal areas usually encompass approximately 80 acres and can be delineated as as a circle with a 1,050-foot radius from the nest tree or roost site.

FW-173 **The following guidelines apply to the use of all motorized equipment:**

- **Where nesting is verified, restrictions shall apply March 1 to September 30.**
- **For verified pair locations, operating restrictions shall apply until nonnesting has been verified.** If nonnesting is verified, restrictions may be waived.

Wolverine (Sensitive Species)

FW-174 **Reported wolverine sightings shall be evaluated. In cooperation with state fish and wildlife agencies, surveys should be conducted to verify the presence and distribution of the species. Direction for management of occupied habitat shall be provided through a species management guide or plan.**

Bull Trout and Oregon Chub

FW-175 **All project proposals within or affecting existing or historic bull trout and Oregon chub habitat shall maintain or improve habitat to levels consistent with biological needs of these species.** The Forest will actively participate in studies or other activities that support the recovery objectives.

TIMBER MANAGEMENT

Harvest Scheduling

FW-176 **The harvest schedule shall support a Forest structure that will enable perpetual timber harvest at the long-term sustained yield capacity (LTSYC).**

FW-177 **The 10-year timber harvest schedule shall comply with nondeclining flow on a Forest-wide basis (36 CFR 219.16(a)(1)).**

FW-178 **An environmental analysis shall be conducted for areas considered for harvest according to the procedures found in FSM 1950, Environmental Policies and Procedures.**

FW-179 **Timber harvest activities shall be planned, implemented and monitored according to Best Management Practices (BMPs) listed in *General Water Quality Best Management Practices, Pacific Northwest Region*, 11/88.**

FW-180 **District Rangers shall recommend additions or deletions to lands determined to be physically suited for timber management to the Forest Supervisor based upon project level data and analysis. Recommended changes should be reported annually. District Rangers shall maintain detailed records of recommended changes.**

FW-181 **Regulated timber harvest shall occur only on suitable lands for timber production (36 CFR 219.27(c)(1)).** Timber cutting may occur for the following purposes on other lands that are unavailable or unsuited for timber production and are not contributing to the LTSYC of the Forest:

- To remove timber from road locations needed for the harvest of timber or for other management purposes.
- To construct or protect capital improvements such as campgrounds, buildings, fuelbreaks, and dispersed recreation sites; or to accomplish projects designed to enhance other resource values.
- To remove hazards to human life and health.
- To remove significant dispersed dead material or timber killed by catastrophic events, such as fire, windthrow, drought, insects, or disease (36 CFR 219.27(c)(1)).
- To allow cutting of unsuitable areas (unsuited due to regeneration problems) located within otherwise suited harvest units provided more logical management units and road locations would result in less resource impacts. Reduced impacts may be achieved by reduced landing or road construction, or by reduced soil and vegetation disturbance caused by dragging logs.
- To study and test the feasibility of silviculture and harvesting practices that could be successful on these lands. This could provide useful information for the 10-year reevaluation of these lands.
- To accomplish integrated resource management activities.

FW-182 **Timber should not be harvested until it has reached or surpassed 95% of culmination of mean annual increment (CMAI) in cubic feet.** Exceptions may be made for commercial thinning, or where special resource considerations require earlier harvest (36 CFR 219.16(a)(2)(iii)). Average stand diameter will range from about 14 inches to over 20 inches at 95% CMAI.

FW-183 **The utilization standards to be used in determining harvest levels shall be separated into empirical and managed stands. Standards in Table IV-27 shall apply, except where individual market areas and/or specific products present opportunities for standards utilizing a higher proportion of the tree:**

Table IV-27. Timber Utilization Standards

Species (Groups)	Min. d.b.h.[1]	Min. top d.i.b [2]
Empirical mature except lodgepole pine	9"	6"
Empirical commercial thinning size and lodgepole pine	7"	4"
Managed stands All species	7"	4"

[1]d.b.h. = diameter at breast height.
[2]d.i.b. = diameter inside bark.

Silvicultural Methods

FW-184 **A silvicultural prescription shall be prepared, or approved after field review, by a Region 6 certified silviculturist (FSM 2478.03(5)) prior to any vegetative manipulation projects such as timber harvests, thinnings, release, planting, and brush control.**

FW-185 **Silvicultural prescriptions shall be based on the site potential as indicated by plant associations.**

FW-186 **Even-aged management should be the preferred timber management system (FEIS Appendix F).** Even-aged harvests will have a different appearance from previous harvest units as a result of S&Gs for wildlife, biological diversity and watershed protection. Some large trees, live and dead, will be left in even-aged units to meet other resource needs. Down wood may also be left in greater amounts than in the past.

FW-187 **Uneven-aged systems should be considered, if after a site specific analysis, it is determined such a silvicultural system is necessary to meet multiple use objectives for all resources.**

FW-188 **Timber harvesting shall be done in such a way that there is assurance that each area can be adequately restocked within 5 years after the final harvest for clearcutting and selection cutting.**

FW-189 **Shelterwood and seed tree cutting shall be done in such a way that there is assurance that each area can be adequately restocked within 5 years of the seed cut.** This time period may be extended to 10 years if documented through an environmental analysis. **In all cases, adequate stocking shall be assured within 5 years of the final overstory removal.**

FW-190 **Tree species used in planting harvest units should be based on the potential of the site as indicated by plant associations and adjacent stand conditions. Stands should be regenerated to maintain a mixture of hardwood and conifer species, as appropriate for maintaining diversity on the site.**

FW-191 **Vegetation treatments in managed stands shall be consistent with the Pacific Northwest Region's EIS for Managing Competing and Unwanted Vegetation (USDA, 1988).**

FW-192 **Prior to removal of woody plants to increase growth of timber crop trees, a prescription shall be developed that ensures:**

- **No native species should be eliminated from the site.**
- **Native species targeted for removal from the site should be retained to at least 10% of the number of individual plants and their spatial distribution prior to treatment.**
- **When clumps are being treated, at least 5-6 stems per acre should be retained.**

FW-193 **Forest openings created by even-aged silviculture should not exceed 60 acres unless otherwise justified. (See USDA Forest Service "Regional Guide for the Pacific Northwest Region," pages 3-3, 3-7, and 3-8.)** Units will be shaped or blended with the natural terrain to achieve aesthetic and wildlife habitat objectives to the extent practicable. Exceptions include:

- Catastrophic events,
- Use of an economically feasible logging system that reduces disturbance to other resources and minimizes the fragmentation of old-growth habitat.

FW-194 **Created openings should be separated by areas that contain one or more logical harvest unit. (Regional Guide, 3-8).**

FW-195 **Unless more stringent standards are required for specific resource values (e.g., visual, wildlife, riparian), a harvested area of commercial forest should not be considered a created opening when:**

- **Crop trees are at or above 4.5 feet in height and free to grow, and**
- **Stocking surveys carried out in accordance with Regional instructions indicate that crop trees meet minimum stocking levels, as shown in Table IV-28.**

Table IV-28. NFMA Minimum 5-Year Stocking Level

	Minimum Trees Per Acre	Minimum Spacing Between Crop Trees
DF Site Class III and Better	125	6 feet
All Others	150	6 feet

Harvest Practices

FW-196 **Uphill falling shall be used in harvesting old growth and large sawtimber on slopes of 30% or greater, except where not operationally feasible or where in conflict with resource protection.**

FW-197 **Directional falling should be used where necessary to protect other resource values.**

FW-198 **All available logging systems should be considered for use. The selection of a logging system shall be based on resource considerations, economics and technological feasibility.**

Consistent with other resource needs, utilization of other forest products (i.e., boughs, christmas trees, beargrass, posts, poles) and miscellaneous plant products should be encouraged through short- or long-term contracts.

Changed Environmental Conditions

FW-199 **When changed conditions occur, environmental analysis shall be conducted to determine the effects of the changed conditions on resource values, and to re-evaluate and consider modification of existing management area objectives.** Visual quality settings, wildlife habitat effectiveness, recreational experiences and timber harvest opportunities may be affected by unforeseen changes in environmental conditions. Changed conditions may result from events, such as catastrophic wind, fire, floods and insects, or by projects that are allowable under law such as minerals development.

FW-200 **The decision to salvage harvest for catastrophic losses after changed conditions shall be based on an environmental analysis. The overall wildlife tree habitat conditions and coarse woody debris levels in the subdrainage shall be analyzed, particularly when scattered mortality harvests are considered.** Refer to standards and guidelines for wildlife and biological diversity in the Forest-wide direction and management area standards and guidelines for further direction. "Catastrophic loss" indicates tree mortality significantly exceeding the endemic mortality rate assumed in timber yield tables used in the forest plan analysis.

BIOLOGICAL DIVERSITY AND OLD GROWTH

Biological diversity is the distribution and abundance of different plant and animal communities and species. Biological diversity is considered within several different spatial scales, biological scales, and temporal scales. Spatially, diversity can be viewed at scales such as within Forest stands, within basins, and within provinces. Biologically, diversity is considered at the population level, the species level, the community level, and the genetic level. Temporally, diversity scales may include historic condition, short-term changes, long-term changes, and evolutionary changes. Diversity is determined by ecosystem function, patterns of biotic communities, and human activities (36 CFR 219.19 and 219.27).

Old-growth forests provide a diverse array of plant and animal habitats and are a major component of natural biological diversity. Old-growth forests encompass the late stages of stand development and are distinguished by old trees and related structural attributes.

These attributes, such as tree size, canopy layers, snags, and down trees, generally define forests that are in an old-growth condition. The specific attributes vary by forest type. Old-growth definitions will be developed by forest type or type groups for use in determining the extent and distribution of old-growth forests. Effective interior old-growth habitat is provided in an old-growth stand where edge effects do not alter the natural plant composition or structure.

Biological diversity encompasses management direction for a variety of individual resources. The following standards and guidelines provide only part of the management direction intended to address biological diversity. Many of the standards and guidelines listed under other topic headings and management areas such as Timber, Wildlife, Fire, and Management Area 15 - Riparian, provide additional direction for meeting biological diversity objectives.

Forest Level Diversity

FW-201 **Biological diversity shall be maintained or enhanced by providing an ecologically sound distribution and abundance of plant and animal communities and species of all age classes at the Forest, basin, and stand level.** This distribution will contribute to the goal of maintaining all native and desirable introduced species and communities.

FW-202 **Within management areas scheduled for future timber harvest, potential old-growth stands shall be evaluated to determine their significance. Significance should be based on its potential value as a functioning old-growth ecosystem, its potential value as a connective corridor facilitating the movement of animals and plant genes between blocks of old-growth ecosystems, and for unique characteristics.** The purpose of this evaluation is to help establish priorities for the scheduling of timber harvests.

FW-203 **Analysis of significant old-growth shall occur at both the individual stand level and at the larger landscape level (e.g., small watershed or several sub-drainages).**

Landscape Level Diversity

FW-204 **Project analysis during Forest Plan implementation shall evaluate the broad scale habitat patterns created by management areas and the proposed activities in the Forest Plan.** The natural stands that will be retained in SOHAs, riparian corridors, old-growth groves, and other management areas allow for the potential movement of species that prosper in interior habitat. Timber harvests, past and present, generate a succession of habitats that occur after stand removal. The spatial interaction of these two major types of habitats is a major source of diversity.

FW-205 **Management activities should minimize adverse effects on significant old-growth stands and connective corridors. To the degree feasible, timber harvests should be planned in areas of least impact to old-growth values.**

FW-206 **Evaluation of landscape patterns shall:**

1. **Identify and rank old-growth stands using ecological criteria.** The ecological criteria used will consider the current research studies as well as public concerns identified through project scoping.

2. **Identify connective corridors that maintain or enhance interaction between habitat islands.** Connective corridors that link large scale land forms, such as watersheds, SOHAs, and Wildernesses are a high priority. Riparian areas, meadows, and lands unsuited for timber harvest, may also be considered in the evaluation of corridor location.

Stand Level Diversity

Nonforested as well as forested areas provide an abundance of different plant and animal communities and species.

FW-207 **During project planning, site specific analysis shall consider biological diversity and ecosystem function.**

FW-208 **Old-growth stands possessing unique characteristics significantly different from other mature stands on the Forest shall be identified and protected during project planning.**

FW-209 **Inventories of potential old-growth should be field verified during project planning to identify old-growth attributes and biologically diverse characteristics.**

FW-210 **At least 10 green dominant or co-dominant trees per acre (in addition to wildlife trees) should be left in harvest units in Management Areas 6b, 6c, 10b, 10d, 11d, 11e, and 11f.** These areas are managed on rotations of 150-200 years. Retaining remnants of the existing overstory will provide some of the structural characteristics of old-growth stands.

FW-211 **Special wildlife and plant habitats not currently identified in non-harvest management areas shall be maintained. This should include the ecotone and a buffered area sufficient to maintain the microclimate of the site.** Examples of special habitats include mineral springs, mineral licks, unique plant associations, small meadows, and caves. Further direction can be found in standards and guidelines for Management Areas 9d and 15.

FW-212 **Prescriptions should be developed prior to timber harvest to identify the amount, sizes, and distribution of downed logs to be left on site after timber harvest. These prescriptions should incorporate the following specifications:**

Table IV-29. Allowable Downed Woody Material

Diameter [1]	Tons/Acre	Downed Trees/Pieces/ Acre	Length
0" - 3"	7 - 11	NA	NA
3" - 9"	8 - 12	NA	NA
9" - 16"	18 - 20	NA	NA
> 16"	NA	8 - 15	> 20 ft.

[1]Diameter = small end

FW-213 **In addition, at least 50% of down material greater than 16 inches in diameter should be in decay class 1. Remainder of material may be in decay classes 2 and 3. All material in decay classes 4 and 5 shall be left.**

FW-214 **Management activities shall provide enough wildlife trees to maintain a healthy forest ecosystem.** See Wildlife Tree (Snag) Habitat Standards and Guidelines.

AIR QUALITY

FW-215 **Management activities shall maintain air quality for the protection and use of the National Forest resources, and meet or exceed applicable federal and state standards and regulations (36 CFR 219.27(a)(12)).**

FW-216 **The Forest shall cooperate with local air-quality authorities on actions required to permit new or modified air pollution sources. Review of air quality studies submitted with new source permits should be completed within 30 days.**

FW-217 **The Forest shall coordinate with appropriate air-quality regulatory agencies. Prescribed burning operations shall comply with the procedures identified in the Smoke Management Operations Plan (Oregon State Forestry Directive 1-4-1-601).**

FW-218 **The Forest shall demonstrate a reasonable reduction in total suspended particulate emissions from prescribed burning consistent with the State of Oregon Implementation Plan.** The best available predictive methods and models together with the most cost-efficient technology will be used.

FW-219 **Established visibility standards shall be followed for each Wilderness.** Prescribed fire implementation plans developed to meet the objectives of FSM 2324 will include the impacts on visibility in Wilderness areas. Visibility factors will be maintained within the Limits of Acceptable Change.

FIRE AND FUELS MANAGEMENT

Fire Planning

FW-220 **Action plans shall be developed for fire prevention, detection, presuppression and suppression programs. Plans shall address the specific requirements of each management area with regard for other resource objectives.**

Forest-wide planning will utilize the National Fire Management Analysis System to determine the most cost-efficient fire protection organization. As conditions change and better information is developed, the fire organization will be re-evaluated with in this system.

Equipment and training will be provided for Forest Service employees outside of the fire management organization to assist in initial attack.

Prevention (Wilderness and Non-Wilderness)

FW-221 **Plans should be developed to minimize industrial, railroad, and debris disposal fire starts.**

Cost-effective plans for the prevention of human-caused fires will be aimed at specific risks determined by on-going monitoring of current and historical fire reports.

FW-222 **The planned program for other prevention activities should rely upon direct and indirect methods of prevention.**

FW-223 **Public contact should be scheduled during periods of high fire danger.** Contact may include use of Wilderness rangers or prevention stations at critical points such as trailheads and arterial roads.

Detection (Wilderness and Non-Wilderness)

FW-224 **Detection should be provided by a combination of aerial detection flights and primary lookouts.** The mix of aerial and ground detection activities will be reviewed periodically to maintain the most appropriate combination.

Presuppression (Wilderness and Non-Wilderness)

FW-225 **Table IV-30 specifies the maximum number of acres that should be allowed to be burned by wildfire on non-Wilderness acres, based on a 10-year average.** This table, through the use of the National Fire Management Analysis System, is a tool in determining appropriate Forest staffing and equipment levels.

Table IV-30. Maximum Allowable Burned Acres: Non-Wilderness

Fire Intensity Level	Annual Maximum Burned Acres by Fire Size			Maximum Total Acres		Average Per Year
	0-100 Ac.	100-500 Ac.	300+Ac.	Annual	10-Yr.	
1	100	0	0	100	1,000	100
2&3	100	400	0	500	2,500	250
4-6	200	300	0	500	2,500	250
TOTALS				1,100	6,000	600

FW-226 **Table IV-31 specifies the maximum number of acres that should be allowed to be burned by wildfire on Wilderness acres, based on a 10-year average.** This table, through the use of National Fire Management Analysis System, helps determine Forest staffing and equipment levels.

Table IV-31. Maximum Allowable Burned Acres: Wilderness

Fire Intensity Level	Annual Maximum Burned Acres by Fire Size			Maximum Total Acres		Average Per Year
	0-100 Ac.	100-500 Ac.	300+Ac.	Annual	10-Yr.	
1	200	200	0	400	2,000	200
2&3	200	200	0	400	2,000	200
4-6	200	0	0	200	1,000	100
TOTALS				1,000	6,000	500

All restriction or closures necessary for any program shall conform to direction contained in FSM 5110.

Suppression: Nonwilderness

FW-227 **All wildfires shall receive an Appropriate Suppression Response. The associated strategies and tactics should be the most cost-effective commensurate with the objectives for the management area on which the fire occurs.**

FW-228 **An on-site analysis should be utilized to identify the appropriate fire suppression strategy which is most cost-effective and environmentally acceptable.**

FW-229 **A control strategy shall be utilized where public or firefighter safety is threatened.**

FW-230 **An Escaped Fire Situation Analysis (EFSA) shall be prepared for any wildfire which is not contained/controlled at 5 acres or less in size or any fire if containment is not expected prior to the second burning period.**

If an EFSA is not required, an assessment of environmental impacts should be made prior to implementation of any suppression tactic.

FW-231 **Cooperative agreements with adjacent protection units should be maintained.**

Suppression: Wilderness

FW-232 **All naturally occurring fires in Wilderness shall be treated as wildfires unless an approved Wilderness Fire Management Implementation Plan (WFIP) exists (FSM 2324). A WFIP should be completed following Forest Plan implementation.**

FW-233 **In suppression of wildfire, preference should be given to those suppression methods and strategies that result in limiting the burned area to within the Wilderness boundary.** Other factors to consider include cost-effectiveness, the preservation of the Wilderness values, and the threat to people, other resource values or private property.

FW-234 **All fires that do not meet the standards set forth for prescribed fires shall be suppressed in an appropriate manner.**

FW-235 **A Control Strategy shall be utilized where public or firefighter safety is threatened.**

FW-236 **An Escaped Fire Situation Analysis (EFSA) shall be prepared for a wildfire which is not contained/controlled at 10 acres or less in size or any fire if containment is not expected prior to the second burning period.**

FW-237 **Suppression practices should have the least physical impact on the land consistent with other management considerations.** Preference will be given to use of natural fuel breaks. In some cases direct attack with a minimum width of hand fireline, or wet line using power driven pumps and hose may be more cost-effective and cause the least overall damage to Wilderness values.

FW-238 In most cases, ground forces consisting of project personnel will be used for all initial attack and suppression work. **Crew camps should be small and located away from popular camping areas. Camps should be rehabilitated after the fire, removing all litter, hose, gas cans, or other evidence of human occupation.**

Aerial resources may be used for all critical fires or fires which occur at 3H or higher action class and have the potential of becoming costly to suppress; or when this tactic would minimize effects on Wilderness resources.

Chainsaws may be used for control purposes only when the fire danger is rated 3H or greater.

FW-239 **An assessment of the environmental impacts should be made before using retardants to determine if the advantages outweigh the disadvantages.**

FW-240 Helicopters may be used to retrieve suppression resources whenever there is a shortage of personnel for fires. **Helispots requiring no ground disturbance should be utilized first.** Construction of helispots will have minimum ground disturbance and not result in an unacceptable impact to the Wilderness.

FW-241 **Felling of snags should be restricted to the absolute minimum for containment and/or safety purposes.**

FW-242 **After the fire is declared out, appropriate actions should be taken to rehabilitate and restore the site to a natural condition.**

FW-243 **Where modified suppression practices have been used, care should be taken to ensure that the fire is completely out.**

Prescribed Fire: Wilderness

FW-244 **Prescribed fire (unplanned and planned ignitions) shall be allowed only on vegetative types where the natural role of fire has been identified.**

FW-245 **A decision to use prescribed fire in Wilderness shall be based on an evaluation of the natural role of fire in retaining a variety of plant communities and overall ecosystem processes.**

All proposed planned ignitions within Wilderness will meet the following criteria:

1. Evaluation and recommendation for the proposed use of prescribed fire by an interdisciplinary team of resource specialists.

2. Involvement of interested public's in the decision process.

FW-246 **Prescribed burning (and wildfire suppression to the degree possible) should be carried out in a manner that minimizes smoke impacts to air quality.**

FW-247 **All prescribed burning shall be done so as not to threaten public safety or resources on adjacent non-Wilderness areas.**

Prescribed Fire: Nonwilderness

FW-248 **Fuels treatment plans should provide for reductions in the hazard level of fuels by the most cost-effective method or combination of methods to levels commensurate with protection standards and other resource considerations.**

FW-249 **Fuels treatments should be tied to the requirements of the specific management area. A wide array of fuels treatment alternatives should be considered when determining how best to meet the intent of fuels reduction and management area objectives.**

FW-250 **Prescribed burning should be utilized only when analysis indicates that it will be cost-effective, practical, and ecologically sound. This analysis should include consideration of measures to mitigate impacts on air quality and maintain long-term site productivity.**

FW-251 **In areas where prescribed burning is practiced, burn intensities should remain within the predetermined prescription criteria to successfully meet planned resource objectives.**

FW-252 **To ensure control of wildfires within established parameters for non-Wilderness areas, treatment should be planned to maintain fuel loadings in management activity-created fuels at or below the maximum acceptable ranges as indicated in Table IV-32, on 95% of the affected acreage:**

Table IV-32. Maximum Acceptable Fuel Loadings

Allowable Downed Woody Material			
Diameter[1]	**Tons/Acre**	**Pieces/Acre**	**Length**
0" -3"	7 -11	NA	NA
3" -9"	8 -12	NA	NA
9" -16"	18 -20	NA	NA
> 16"	NA	8 - 15	> 20 ft.

[1]Diameter = small end

FW-253 **In addition, at least 50% of down material greater than 16 inches in diameter should be in decay class 1. Remainder of material may be in decay classes 2 and 3. All material in decay classes 4 and 5 shall be left.**

With supporting analysis, fuels treatment prescriptions to meet other resource requirements may specify lower or higher desired fuel loadings than identified in Table IV-32.

INTEGRATED PEST MANAGEMENT

FW-254 **The Forest shall cooperate with the State, counties, and other Federal agencies in the control of animal, insect or disease problems, noxious weeds, and in the monitoring and application of pesticides.**

FW-255 **Silvicultural methods and cultural treatments shall be applied in such a way as to reduce hazards from insects, diseases and weed species (36 CFR 219.27(c)(7)).**

FW-256 **When normal insect surveillance indicates the threat of an epidemic, project level detection and control operations, including coordination with other land ownerships, shall be evaluated on a Forest-wide basis.**

FW-257 **In timber harvest areas, where harmful agents may prevent reforestation within 5 years, control methods shall be used. In timber harvest areas, where harmful agents result in lower than projected growth rates, control methods should be considered.**

FW-258 **Vegetation control should be considered along Forest roads and administrative sites to protect resources and investments, or to provide for safety, aesthetics, and other use requirements in accordance with the Pacific Northwest Region's EIS for Managing Competing and Unwanted Vegetation (USDA, 1988).**

FW-259 **Project plans should consider existing noxious weed infestations within the project area. Activities should be designed to minimize the risks of spreading the infestation. Mitigation measures should be used as needed to reduce the spread of noxious weeds.**

FW-260 **Pesticides shall be used only after an analysis of alternatives (based on effectiveness, specificity, environmental effects, and benefit/cost) clearly demonstrates that pesticide-use best meets management goals.** Pesticide-use may be considered in non-epidemic situations to protect seed orchards, seed production areas and individual seed trees.

FW-261 **Project areas should be monitored during and after pesticide operations in order to detect unanticipated non-target effects.**

CULTURAL RESOURCES

The Forest is mandated by Federal laws and regulations to protect significant cultural and historical resources for future generations. The standards and guidelines described in this section were developed to ensure that proposed projects will not inadvertently harm or destroy important cultural resources.

Standards and guidelines specify procedures for complying with all mandates of Federal law, acts, executive orders, and Federal regulations. Cultural resource inventories will be conducted for proposed ground-disturbing activities. Sites will be evaluated for their potential to be nominated to the National Register of Historic Places. Eligible sites will be nominated to the Register and management plans prepared to ensure their protection. Interpretive plans will be prepared for sites selected for public use.

Overview

FW-262 **The Forest shall develop and maintain a Forest-wide cultural resources overview which compiles and summarizes known cultural resources information.**

Identification

FW-263 **A cultural resource inventory program shall be conducted for each proposed ground-disturbing activity or other activities with a significant potential to affect cultural resources. The inventory shall be administered by qualified archaeologists and/or historians in compliance with applicable Federal law (Forest Service Manual 2360; Davis 1988).** The results of inventory will be documented in a report which will serve as a planning document.

FW-264 **The Forest's strategy for cultural resource inventories, as outlined in FSM 2360, shall be used to guide the inventory of all Forest lands to identify all cultural resources. This strategy should be reviewed and updated annually to incorporate changes in the site inventory data base, management objectives, legislation, and Regional or Forest research information.**

Evaluation and Assessment

FW-265 **Inventoried sites shall be evaluated using the criteria for eligibility to the National Register of Historic Places.** Sites can be treated as individual properties, thematic groups, or historic districts. Properties that may be affected by project activities will receive priority. **As available resources allow, a plan should be developed to evaluate other cultural resources as the Forest-wide inventory nears completion.**

Nomination

FW-266 **The Forest shall nominate cultural resource sites that meet the appropriate criteria to the National Register of Historic Places.** Nominations will be scheduled incidentally until completion of the Forest-wide inventory of cultural resources.

Protection and Enhancement

FW-267 **Measures shall be developed to protect significant sites from adverse effects due to ground-disturbing and other activities. The Oregon State Historic Preservation Officer (SHPO), and as necessary, the Advisory Council on Historic Preservation (ACHP) shall be consulted.** Measures developed to protect specific values range from complete avoidance of the site and corresponding protection of its environmental setting to mitigation procedures which conserve the historic or scientific values of the resources. Examples of the latter may include data recovery through scientific excavation of subsurface cultural resources, photo documentation of surface features and standing structure, and (in some cases) site restoration.

FW-268 **Eligible cultural resources shall be protected from depredation and natural destruction.** Protection plans may include physical protection (i.e., fences and barriers), scientific study and collection, patrol and anonymity, and gaining public understanding and support through education.

FW-269 **Cultural resources determined eligible to the National Register of Historic Places should be periodically inventoried to discover possible vandalism, artifact theft, or unauthorized use.**

FW-270 **Eligible cultural resources should be protected from natural deterioration caused by fire, flood, earthquake, precipitation, wind, or other degradation. Cultural resources evaluated as having National Register significance should be periodically inventoried to evaluate the affects of environmental factors.**

Scholarly/scientific use of designated prehistoric sites may be permitted in coordination with the relevant Native American groups. This could require "banking" of sites for future use, and processing of antiquities permits for testing and excavation of sites by qualified professionals.

Maintenance of Historic Sites and Trails

FW-271 **Eligible historic sites and historic trails shall be maintained and/or adverse effects shall be mitigated.** Damaged significant sites may be stabilized or rehabilitated. The maintenance level for eligible historic structures will be based on an analysis of utility,

interpretive value, public interest, existing site or area allocation, funding sources and existing agreements. Protective measures may range from complete avoidance of the site and protection of the environmental setting to mitigation procedures which conserve the historic or scientific values.

Interpretation

FW-272 Cultural resources may be interpreted as suitable for the recreational use and educational benefit of the general public. **Suitability criteria should include accessibility, feasibility for protection, condition of the property, compatibility with other resource management activities within or adjacent to the area, thematic representation, and value to public groups. Interpretive services and facilities should be compatible with the qualities of the cultural sites selected for enhancement.** Preferred interpretive methods include brochures, signs, displays, interpretive trails, tours, and video or slide programs.

Mitigation

FW-273 **Mitigation measures established during the environmental analysis of a given project shall be monitored to maintain a current record of site conditions.** Tracking of the mitigation plan is necessary during and following ground-disturbing activities.

Management

FW-274 **Long-term management of cultural resources shall be coordinated with the State Historic Preservation Office and others as necessary. Cultural resources should be assigned to management categories such as interpretation, scientific investigation, adoption, and preservation, for developing future scientific needs.** A data redundancy category will be developed in the future when inventory and excavation data become sufficient to make such a judgment.

The following are management priorities for Cultural Resources:

1. Preservation in-place of cultural resources for future scientific study.

2. Controlled data recovery by means of professional excavation, mapping, photo documentation and reporting to answer questions about prehistoric/historic use and development.

3. Adaptive use of historical structures; for example, administrative sites, residences, interpretive centers, etc.

4. Interpretive use, such as directing public attention to a site for educational/ entertainment purposes.

American Indian Religious Freedom Act

FW-275 **Management of traditional religious sites or plans for projects which may affect religious sites shall be coordinated with local American Indian tribes.**

LANDS

Land Adjustments

FW-276 **The Lands program shall identify and document areas that meet general criteria for acquisition or exchange.**

FW-277 **Opportunities to acquire or exchange lands within proclamation boundaries should be pursued to provide for or improve:**

1. **Protection within Wilderness;**
2. **Wildlife and fish management opportunities;**
3. **Access opportunities;**
4. **Efficiency of NFS lands management through consolidation;**
5. **Recreation management opportunities.**

Landlines

FW-278 **Property boundary surveys, marking and posting shall be accomplished as needed to support resource programs.** Priorities for landline surveys will consider resource values on National Forest System lands and the compatibility of adjacent uses with management area objectives of the Forest.

All survey monuments and markers shall be protected during management activities.

Special Uses

FW-279 **Special-use permit requests should be evaluated against the following priorities:**

1. **Relating to public safety, health, and welfare;** highways, power lines, and public service improvements.
2. **Contributing to the general public benefit associated with National Forest resources.**
3. **Benefiting primarily private users;** road permits, power line right-of-ways, telephone lines, water lines.

FW-280 **No special use request should be approved if it can be reasonably accommodated or met on private lands unless such use is clearly in the public interest.**

FW-281 **Opportunities to acquire rights-of-way for public and administrative access to National Forest System lands should be considered whenever possible. Limited access to National Forest lands should not be acquired unless there is alternative public access.** Temporary access may be considered if the need is limited to one time,

the accessible area is small and isolated, and the cost of accumulated entries is less than acquiring permanent access.

FW-282 **All right-of-way permits issued to the Oregon Department of Transportation should be converted to USDA or US Department of Transportation easements.**

FW-283 **Small Tracts Act (P.L. 97-465; 96 Stat. 2535, 1/12/83) cases shall be identified and completed in a timely manner. This direction will be used to resolve cases which are within the authority of the Act.**

FW-284 **Sites designated for electronics use should be managed to maximize the number of compatible uses which minimize construction of individual buildings and facilities. Existing sites should be used before developing new sites if coverage is comparable.**

FW-285 **Site plans shall be developed for new special use sites prior to installation of facilities. Site plans should be developed for existing sites with facilities already in place where no site plan currently exists.**

FW-286 **New corridor proposals should be accommodated within existing corridor locations when practicable. New corridors needed for major utilities and highways shall be evaluated and designated through the NEPA process and interagency evaluation as recommended in the Western Regional Corridor Study, 1986.**

FW-287 **Utility transmission corridors shall be excluded from crossing the crest of the eastern boundary of the Forest with the exception of five potential windows.** The five windows are Emigrant Pass, Willamette Pass, McKenzie Pass, Santiam Pass, and the North Fork of the Breitenbush River. **Prior to the designation and development of any of these areas for a utility corridor, an evaluation shall be done to identify avoidance areas that may be necessary to maintain scenic quality, wildlife and recreation resource values.**

FW-288 **Corridors through or in close proximity to Wilderness (Management Area 1), Wild Rivers (Management Area 6a), and Research Natural Areas (Management Area 4), shall be excluded from consideration as potential routes. New corridors should be accommodated within existing corridor locations through or in close proximity to Scenic and Recreation Rivers (MA 6a,b).**

MINERAL AND ENERGY RESOURCES

FW-289 **Mineral resource uses shall be consistent with cultural resource values and management area direction. Leases for mineral activities shall be consistent with management area objectives such as visual quality, soil, water, wildlife, and fish habitat.** Minerals development is a valid use for many areas on the Forest.

FW-290 **An environmental analysis shall be done for all applications for mineral permits, leases, or licenses to evaluate environmental effects and determine necessary mitigation.**

FW-291 **An operating plan shall be completed prior to any site development for mineral exploration, development, or extraction (36 CFR 228).** Mining operation methods will be evaluated through the review and approval of operating plans.

FW-292 **Reclamation standards shall ensure that the land is returned to a productive condition in a timely manner to the extent reasonable and practicable. When appropriate, opportunities to enhance other resources may be considered.** Concurrent reclamation will be stressed. Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource input, and will be adjusted to current on-site conditions.

WITHDRAWALS

FW-293 **Withdrawal of lands from appropriation or entry under the mining or mineral leasing laws shall be in accordance with Section 204 of the Federal Land Policy and Management Act of 1976 (FLPMA) and current direction. Areas with mineral potential should be recommended for withdrawal from mineral entry only when mitigation measures would not adequately protect other resource values which have designated protected status or which are of equal or greater public benefit.** Review of existing withdrawals will be made to determine whether the continuation of existing withdrawals is consistent with the statutory objectives of the programs for which the lands were dedicated.

Mineral activities include prospecting, exploration, development, extraction, and rehabilitation. These activities vary by the category of minerals involved: locatable, leasable, or salable.

Locatable Minerals

This category includes valuable mineral deposits including hard rock minerals such as gold, silver, and copper.

FW-294 **Locatable minerals on reserved and O & C lands shall be administered in accordance with applicable laws and regulations including the General Mining Law of 1872 as amended.**

FW-295 **Claims on which application for patent have been made shall be examined by a certified mineral examiner; a conclusion of validity shall be presented to the Bureau of Land Management for final action.**

Leasable Minerals

This category includes coal, oil, gas, and geothermal on all lands as well as hard rock minerals on acquired lands.

FW-296 **Leasable minerals shall be administered in accordance with the Minerals Lands Leasing Act of 1920 as amended and the Federal Onshore Oil and Gas Leasing Reform Act of 1987.**

FW-297 **Permits for leasable minerals shall provide for protection and rehabilitation of surface resources.**

FW-298 **Applications for permits and leases shall be evaluated in an environmental analysis.**

FW-299 **A "no-surface-occupancy" stipulation on leases should be considered when:**

1. **surface occupancy would cause significant resource disturbance which could not be mitigated by any other means;**
2. **where resource impacts would be irreversible or irretrievable; or**
3. **the activity is incompatible with surface management objectives.**

FW-300 **Off-lease support facilities and/or activities may be authorized by appropriate Forest Service land use permits.**

FW-301 **Geothermal resources shall be administered in accordance with the direction established by the final decisions in the following environmental analyses: Breitenbush Area Final Environmental Impact Statement, 1978; Geothermal Leasing on Nonwilderness Areas Environmental Assessment, 1982; Belknap-Foley Final Environmental Impact Statement, 1981. These documents are on file at the Willamette National Forest Supervisor's Office.**

Salable Minerals

This category includes common variety minerals such as sand, stone, gravels, cinders, pumice, pumicite, and clay.

FW-302 **Salable minerals shall be administered in accordance with the Materials Act of 1947 and the Multiple-Use Mining Act of 1955.**

FW-303 **An environmental analysis shall be done for all requests for extraction operations. Activities allowed by permit should be consistent with the multiple-use objectives for the area.**

FW-304 **Rock quarry location, design, and operations should meet safety, visual, watershed, and economic objectives.** In sensitive viewsheds and near recreation areas, consideration will be given to design criteria such as low quarry faces to minimize impacts. Rock use will emphasize conservation. Emphasis will be given to effective utilization of existing sources before development of new sources.

FW-305 **Rock sales may be discouraged in areas deficient in quarry rock.**

FW-306 **All mineral permits, contracts, or leases issued by the Forest Service, involving removal of rock material, should prohibit unnecessary soil disturbance beyond the materials source boundary and provide for reasonable restoration of the site.** Removal of rock material by a mineral materials permit will be governed by a plan

providing for development and rehabilitation requirements designed to meet the objectives for the management of the site.

FW-307 **All contracts requiring rock source development shall contain a plan providing for development and rehabilitation requirements designed to meet the management objectives for the site.**

FACILITIES

Forest Development Roads

FW-308 **The development, maintenance and management of the Forest development road system shall be continued as needed to respond to resource management objectives.** Many road-related activities will occur in support of the timber management program with additional projects undertaken to facilitate recreational use, Forest administration and resource protection.

FW-309 **Forest development roads shall be located, designed, constructed, and reconstructed based on the following criteria: resource management objectives, environmental needs, safety, traffic requirements, traffic service levels, vehicle characteristics, road users, season(s) of use, and economics.**

FW-310 **Major through-roads, most commercial haul routes, roads in and to developed recreation or administrative sites, and roads leading to moderate or high-use trailheads, should be maintained for low-clearance vehicles. (Maintenance levels 3, 4 and 5)**

FW-311 **Roads needed only for administrative uses, minor commercial haul, and/or low use dispersed recreation should be maintained for high-clearance vehicles.** (Maintenance level 2)

Road Closures

FW-312 **Existing roads determined not to be needed for current or future use shall be permanently closed to motor vehicles and have vegetation cover reestablished on the roadway and areas where the vegetative cover has been disturbed by the construction of the road.**

Road closures or travel restrictions may be implemented to meet wildlife and other resource needs, reduce or eliminate conflicts between user groups, provide public safety, or reduce road damage and maintenance costs. (Maintenance Level 1)

FW-313 **Road closures or access restrictions shall consider the effects on developed and dispersed recreation sites and trailheads.** Proposed access restrictions will consider season of use, alternate routes, and availability of similar experiences.

Temporary Roads

FW-314 **Roads planned and constructed as temporary roads should be closed as part of the project work. Methods used, timing, and mitigation measures should be in accordance with the site-specific project plan. Such roads shall be designed to re-establish vegetative cover on the disturbed area as soon as practicable, not to exceed 10 years after the termination of the contract, permit, or lease (36 CFR 219.27 (a)(11)).**

FW-315 **Permanent drainage structures shall be removed from temporary roads. Measures shall be taken to ensure that subsurface and surface drainage patterns are reestablished to minimize the risk of mass movement, surface erosion, and channel erosion.**

FW-316 **Temporary roads left from past activities should be evaluated as they are encountered during project environmental analysis and rehabilitated as soon as practicable.**

FW-317 **Roads subsequently determined to be needed as part of the Forest development road system shall be added to the road system development plan.**

Waldo/Charlton Lake Road

The Waldo/Charlton Lake Road connection between the Deschutes and Willamette National Forests has been identified as having potential to enhance and facilitate use of recreation opportunities in the Waldo Lake Basin and along Century Drive. Improvement of the route would be necessary to provide access across the common Forest boundary and to accommodate use of passenger cars and recreation vehicles.

FW-318 **Prior to any decisions or actions to improve or alter the current status of the Waldo/Charlton Lake Road an environmental analysis, including public involvement, shall be conducted according to the NEPA process.**

FW-319 **Until a decision is reached and the NEPA process is complete, the Waldo/Charlton Lake Road shall remain a gravel surface road.** In this interim period, crushed rock and dust oil may be applied for safety and routine maintenance purposes. Other road surfacing materials may be applied in selected locations on an experimental basis. Testing and monitoring of the experimental surface applications will be accomplished to determine an optimum road surface.

Administrative Sites

FW-320 **Administrative site development planning analysis shall be conducted prior to ground disturbance.**

FW-321 **Design standards shall be based on site management objectives, environmental constraints, user safety, national and local uniform building codes, traffic requirements, and economics.**

FW-322 **All new sites shall be planned, constructed, and managed to provide the anticipated uses safely with a minimum impact to adjacent uses and landowners. Completed projects shall include provisions for reducing adverse environmental effects of sight, sound, odor and drainage.**

Site or structure closures may be implemented to meet health and safety needs, or to reduce damage and maintenance costs.

MANAGEMENT AREA PRESCRIPTIONS

Background

This section describes direction specific to the management areas (MAs) on the Forest. There are 15 management area groups each having a similar management theme such as Wilderness, wildlife habitat or visual quality. Within each group there are 1 to 6 individual MAs with specific management direction. Forest-wide S&Gs apply to all MAs unless specifically exempted or modified by the MA direction.

MA direction consists of an emphasis statement, goals, desired future condition, description and standards and guidelines (S&Gs). A single primary resource emphasis is identified for each MA, however, the overall direction is designed to produce a variety of resource benefits consistent with this emphasis. S&Gs are printed in boldface type and are sequentially numbered for easy reference.

MAs are units of land with boundaries that can be located on the ground. In some cases, such as Wilderness, legal boundaries are specified in various Congressional Acts. In others, boundaries have been identified based on varying levels of resource inventory and survey data. In these cases, the location of MA boundaries during Forest Plan implementation may result in minor boundary adjustments to reconcile ground conditions with MA descriptions and objectives.

Management Area Maps

Management locations and boundaries are shown on the Forest Plan map, with the exception of MAs 1a, 1b, 1c, 1d, and 15 as previously explained. A Forest Plan Control Map is on file at the Forest Supervisor's Office in the planning records and at each District Ranger Station. These maps are on 1:24,000 scale quadrangle maps and are the source maps for the smaller scale Forest Plan maps.

The direction for MAs 9a, spotted owl habitat areas, 9b pileated woodpecker habitat areas, and 9c, marten habitat areas applies to some areas within other no-harvest MAs where they overlap with the management requirement habitat network for these species. These overlaps are displayed by shading on the Forest Plan maps. Where these overlaps occur, the intent is to protect the habitat as described in MAs 9a, 9b, and 9c while meeting the primary emphasis of the assigned MA as shown on the map. The overlapping acres by MA are shown in Table IV-33.

Table IV-33. Management Requirement Network Acre Overlaps With No-Harvest MAs

Management Area	Spotted Owl	Pileated Woodpecker	Marten	Total
3	2,880	--	171	3,050
5a	2,346	747	470	3,562
5b	2,005	--	--	2,005
6a	704	--	--	704
6b	448	--	21	469
6c	661	128	320	1,109
7	874	192	256	1,322
9d	1,557	1,002	363	2,923
10c	512	43	--	555
10e	7,636	320	747	8,703
10f	235	43	--	278
12a	234	--	21	255
12b	21	--	--	21

All MAs except MA 15, riparian, are shown on the Forest Plan map. In addition, only the exterior boundary of MA 1, Wilderness is shown on the Forest Plan map. Maps of the individual Wilderness Resource Spectrum classes, MAs 1a-d, are maintained in planning records.

Riparian MA locations will be identified through site specific evaluations and will be recorded for use in future planning efforts. The identification process and location criteria are explained in detail in the MA 15 section. The estimated acres of streamside and lakeside riparian area that overlap with the MAs as displayed on the Forest Plan map are shown in Table IV-34. The total acres by MA, Table IV-35, have been corrected for the riparian overlap. The acres of riparian overlap in MAs with timber harvest are excluded from the acres shown in Table IV-35.

Table IV-34. Overlap of Riparian Acres (MA 15) With Mapped MAs

Management Area	Class I Streams	Class II Streams	Class III Streams	Lakeside Areas	Total
1a,b,c,d	704	1,301	2,261	1,109	5,375
2b	--	--	64	43	107
3	--	341	256	--	597
4	43	43	43	--	129
5a	2,069	448	299	213	3,029
5b	--	128	85	--	213
6a	491	--	21	--	149
6b	128	--	21	--	1,556
6c	1,791	234	--	--	682
7	235	192	149	64	640
8	--	85	21	107	213
9d	469	320	512	64	1,365
10a	--	--	43	--	21
10b	43	--	43	--	86
10c	107	64	43	128	342
10d	85	--	--	64	149
10e	171	384	1,216	363	2,134
10f	--	64	21	213	298
11a	683	2,410	3,519	43	6,655
11c	1,003	981	1,322	256	3,562
11d	2,560	747	235	235	3,777
11e	64	64	85	--	213
11f	3,541	789	533	1,173	6,036
12a	384	21	21	85	511
12b	107	--	--	43	150
13a	277	43	107	64	491
14a	4,543	12,819	18,472	192	36,026
14b	--	43	43	--	86
Total	19,495	21,522	29,628	4,462	75,107

In addition to the MA maps, supplemental maps of elk emphasis area objectives and the Forest trail classification system are part of the entire Forest Plan map packet. Both the elk areas and trail classes are explained in detail in the Forest-wide S&Gs.

Table IV-35. Description and Size of Management Areas

Management Area	Description	Acres
1a	**WILDERNESS, TRANSITION CLASS** - This MA protects Wilderness resources and restores areas to Semiprimitive WRS class.	2,111
1b	**WILDERNESS, SEMIPRIMITIVE CLASS** - This MA protects Wilderness resources and maintains Semiprimitive WRS class.	34,958
1c	**WILDERNESS, PRIMITIVE CLASS** - This MA protects Wilderness resources and maintains Primitive WRS class.	43,963
1d	**WILDERNESS, PRISTINE CLASS** - This MA protects Wilderness resources and maintains Pristine WRS class.	299,773
2a	**OREGON CASCADES NATIONAL RECREATION AREA** - This MA provides semiprimitive, motorized recreation opportunities.	1,152
2b	**OREGON CASCADES NATIONAL RECREATION AREA** - This MA provides semiprimitive, nonmotorized recreation opportunities.	4,906
3	**H.J. ANDREWS EXPERIMENTAL FOREST** - This MA provides opportunities for study and research of forest resources and effects of management activities.	15,379
4	**RESEARCH NATURAL AREAS** - This MA protects representative physical and biological systems in a natural condition for scientific study.	4,245
5a	**SPECIAL INTEREST AREAS** - This MA protects sites with unique geologic, biological, cultural or scenic characteristics and provides opportunities for interpretation and education.	27,942
5b	**SPECIAL INTEREST AREAS** - This MA protects diverse plant and animal communities in the Hardesty Mt - Mt. June area as a basis for research and monitoring.	3,178
6a	**WILD AND SCENIC RIVERS, WILD** - This MA protects the outstanding values in the section of the North Fork, Middle Fork Willamette River and adjacent corridor designated as a Wild river.	1,983
6b	**WILD AND SCENIC RIVERS, SCENIC** - This MA maintains the outstanding values in the section of the NF, MF Willamette River and adjacent corridor designated as a Scenic river.	1,237
6c	**WILD AND SCENIC RIVERS, RECREATION** - This MA maintains the outstanding values in the sections of the NF, MF, Willamette River, McKenzie River and adjacent corridors designated as Recreation rivers.	13,225
7	**OLD GROWTH GROVES** - This MA protects the representative stands of old-growth trees and provides opportunities for interpretation and scenic enjoyment.	6,655
8	**T & E SPECIES, BALD EAGLE** - This MA protects habitat required for the recovery of the northern bald eagle.	1,472
9a	**WILDLIFE HABITAT, NORTHERN SPOTTED OWL** - This MA protects stands of mature and old-growth forests necessary for a viable population of northern spotted owls and species with similiar habitat needs.	69,045

Management Area	Description	Acres
9b	**WILDLIFE HABITAT, PILEATED WOODPECKER** - This MA protects stands of mature forest habitat necessary for a viable population of pileated woodpeckers and species with similiar habitat needs.	9,513
9c	**WILDLIFE HABITAT, MARTEN** - This MA protects stands of mature forest habitat necessary for a viable population of martens and species with similiar habitat needs.	14,568
9d	**WILDLIFE HABITAT, SPECIAL AREAS** - This MA maintains or enhances unique wildlife habitats and botanical sites.	31,355
10a	**DISPERSED RECREATION, ROADED NATURAL** - This MA provides opportunities for motorized recreation in a natural setting in conjuction with other resource uses.	299
10b	**DISPERSED RECREATION, SEMIPRIMITIVE** - This MA provides opportunities for motorized recreation in a semiprimitive setting in conjunction with other resource uses.	19,645
10c	**DISPERSED RECREATION, SEMIPRIMITIVE** - This MA provides opportunities for motorized recreation in a semiprimitive setting and restricts some resource activities.	8,873
10d	**DISPERSED RECREATION, SEMIPRIMITIVE** - This MA provides opportunities for semiprimitive recreation in an area with no motor vehicles and in conjunction with other resource uses.	960
10e	**DISPERSED RECREATION, SEMIPRIMITIVE** - This MA maintains the opportunties for semiprimitive recreation without motor vehicles and restricts some resource activities.	69,898
10f	**DISPERSED RECREATION, LAKES** - This MA provides for recreation opportunities while preserving the wildlife habitat and scenic quality in areas surrounding natural lakes.	3,605
11a	**SCENIC, MODIFICATION** - This MA maintains scenic quality in middleground areas of moderate sensitivity in conjunction with timber harvests and other management activities.	138,176
11b	**SCENIC, MODIFICATION** - This MA maintains scenic quality in foreground areas of moderate sensitivity in conjunction with timber harvests and other management activities.	256
11c	**SCENIC, PARTIAL RETENTION** - This MA maintains scenic quality in middleground areas of high sensitivity in conjunction with timber harvests and other management activites.	70,090
11d	**SCENIC, PARTIAL RETENTION** - This MA maintains scenic quality in foreground areas of high sensitivity in conjunction with timber harvests and other management activities.	24,316
11e	**SCENIC, RETENTION** - This MA maintains scenic quality in middleground areas of very high sensitivity in conjunction with timber harvests and other management activites.	8,212
11f	**SCENIC, RETENTION** - This MA maintains scenic quality in foreground area of very high sensitivity in conjunction with timber harvests and other management activities.	36,347
12a	**DEVELOPED RECREATION** - This MA provides developed recreation opportunities in developed campground and picnic sites as well as preseving sites with potential for future development.	2,709

Management Area	Description	Acres
12b	**DEVELOPED RECREATION, PERMITS** - This MA provides developed recreation opportunties such as downhill skiing, that are operated by private individuals under Forest Service permit.	2,389
13a	**SPECIAL USE PERMIT AREAS** - This MA directs the administration of sites on the Forest used for electronic sites, power right-of-ways and railroad corridors that are used by private parties under Forest Service permit.	3,839
13b	**ADMINISTRATIVE USE AREAS** - This MA includes areas of the Forest necessary for management and administration such as ranger stations, fire lookouts and warehouses.	704
14a	**GENERAL FOREST** - This MA provides for intensive management of vegetation for timber production and other resource uses. Mulitple resource values are maintained or enhanced.	646,320
14b	**GENERAL FOREST, DEFERRED** - This MA defers the implementation of timber harvests and management practices for the planning period.	661
15	**RIPARIAN** - This MA preserves and enhances the vegetation and lands adjacent to rivers, streams and lakes, as well as other wetlands for animal and plant species that are dependent on them.	50,552

Table IV-36. Proposed and Probable Management Practices by Management Area

Management Practice or Activity	NAS Code	Units	Proposed Level	Management Area																				
				1	2	3	4	5	6a	6b/c	7	8	9	10a	10b	10c	10d	10e	10f	11	12	13	14a	14b	15
Recreation Site Construction	AN2	PAOT	327																		X				
Recreation Site Reconstruction	AN2	PAOT	844																		X				
Semiprimitive Nonmotor Rec. Use	AN1	MRVD	52	X	X				X								X	X							
Semiprimitive Motor Rec. Use	AN1	MRVD	64		X		X								X	X		X	X						
Roaded Natural Rec. Use	AN1	MRVD	1,278					X		X	X	X	X	X				X	X	X					X
Roaded Modified Rec. Use	AN1	MRVD	376			X																	X	X	
Wilderness Recreation Use	AW1	MRVD	342	X																					
Trail Construction	AT2	Miles	6.0		X			X			X		X	X	X	X	X	X							X
Trail Reconstruction	AT2	Miles	7.2		X			X			X		X	X	X	X	X	X							X
Wildlife Habitat Improvements																									
Big Game	CW2	M Ac.	51										X	X	X		X			X			X		
Cavity Excavators	CW2	Trees	13,000										X	X	X		X			X				X	
Structures	CW2	Struct.	4,510																						
Bald Eagle	CW2	Sites	50									X													
Fishery Habitat Improvements																									
Anadramous	CA2	Miles	60																						X
Resident	CI2	Acres	A,450																						X
Timber Harvest																									
Clearcut/Shelterwood	ET1	M Ac.	9.1							X				X	X		X			X			X		
Commercial Thin	ET1	M Ac.	2.1							X				X	X		X			X			X		
Reforestation	ET24	M Ac.	9.1							X				X	X		X			X			X		
Timber Stand Improvement	ET25	M Ac.	18.1							X				X	X		X			X			X		
Road Construction	L1	Miles	40			X	X	X		X	X			X	X		X			X	X	X	X		
Road Reconstruction	L1	Miles	174			X	X	X		X	X	X	X	X	X		X			X	X	X	X	X	X
Fuels Treatment	PF2	M Ac.								X				X	X		X			X			X		
Cultural Resource Survey	AC	M Ac.	6.7		X			X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Watershed Improvements	FW2	Acres	533																						
Range	DN1	AUM	200											X	X	X	X	X					X	X	

MANAGEMENT AREA 1 Wilderness

INTRODUCTION

Management Area 1 includes all designated Wilderness on the Forest. This management area is stratified into 4 subdivisions based on the Wilderness Resource Spectrum (WRS). Each of the WRS strata are individual management area designations with individual goals, desired future condition, description and standards and guidelines for each. Because much of the wilderness management direction is common to all WRS classes, however, a list of standards and guidelines common to MA 1a,b,c, and d is provided to minimize duplication. The individual WRS management areas immediately follow this section.

In addition to the management direction in this section, additional information pertaining to management goals and objectives for individual Wildernesses is included in Appendix A, Wilderness Management Plans.

The following S&Gs apply to all Wilderness. Management direction for the specific WRS strata also applies to MAs 1a, b, c, and d as shown on the Forest Plan map.

Standards and Guidelines Common to MA 1a, 1b, 1c, and 1d

Area Use

MA-1-01 **Highest priority in general Wilderness management shall be accorded those uses which are most dependent upon the Wilderness environment, cannot be reasonably accommodated elsewhere, and least affect the Wilderness environment** (See FSM 2323.1).

MA-1-02 **Wilderness shall be made available for maximum public recreation use and enjoyment, consistent with resource preservation and maintenance of the Wilderness environment.** Contests, races, promotions, or fund raisers or any kind will not be permitted in Wilderness.

MA-1-03 **Group sizes should not exceed 12 persons or 12 persons and 12 head of stock (combined maximum of 24, but never more than 12 people or 12 head of stock).** Larger groups of up to 12 people and 18 head of stock may be allowed by permit. For areas designated for larger parties, Limits of Acceptable Change (LAC) inventory data must show ability to withstand the additional recreation use.

MA-1-04 **Campsites should be located to take advantage of vegetative screening and topography to provide a moderate to high degree of solitude.** Where terrain allows, camps should be separated from each other and set back at least 100 feet from ponds, lakes, streams, trails, and key interest features.

Campfires may be banned or limited to designated sites when resource damage or air quality impacts are unacceptable.

MA-1-05 **Pets should be under voice control and/or physical restraint. They may be banned for the protection of wildlife or to decrease social and resource effects.**

Table IV-36. Proposed and Probable Management Practices by Management Area

Management Practice or Activity	NAS Code	Units	Proposed Level	Management Area																				
				1	2	3	4	5	6a	6b/c	7	8	9	10a	10b	10c	10d	10e	10f	11	12	13	14a	14b	15
Recreation Site Construction	AN2	PAOT	327																		X				
Recreation Site Reconstruction	AN2	PAOT	844																		X				
Semiprimitive Nonmotor Rec. Use	AN1	MRVD	52	X	X				X								X	X							
Semiprimitive Motor Rec. Use	AN1	MRVD	64		X		X								X	X		X	X						
Roaded Natural Rec. Use	AN1	MRVD	1,278					X		X	X	X	X	X				X	X	X					X
Roaded Modified Rec. Use	AN1	MRVD	376			X																	X	X	
Wilderness Recreation Use	AW1	MRVD	342	X																					
Trail Construction	AT2	Miles	6.0		X			X			X		X	X	X	X	X	X							X
Trail Reconstruction	AT2	Miles	7.2		X			X			X		X	X	X	X	X	X							X
Wildlife Habitat Improvements																									
Big Game	CW2	M Ac.	51										X	X	X		X			X			X		
Cavity Excavators	CW2	Trees	13,000										X	X	X		X			X				X	
Structures	CW2	Struct.	4,510																						
Bald Eagle	CW2	Sites	50									X													
Fishery Habitat Improvements																									
Anadramous	CA2	Miles	60																						X
Resident	CI2	Acres	A,450																						X
Timber Harvest																									
Clearcut/Shelterwood	ET1	M Ac.	9.1							X				X	X		X			X			X		
Commercial Thin	ET1	M Ac.	2.1							X				X	X		X			X			X		
Reforestation	ET24	M Ac.	9.1							X				X	X		X			X			X		
Timber Stand Improvement	ET25	M Ac.	18.1							X				X	X		X			X			X		
Road Construction	L1	Miles	40			X	X	X		X	X			X	X		X			X	X	X	X		
Road Reconstruction	L1	Miles	174			X	X	X		X	X	X	X	X	X		X			X	X	X	X	X	X
Fuels Treatment	PF2	M Ac.								X				X	X		X			X			X		
Cultural Resource Survey	AC	M Ac.	6.7		X			X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Watershed Improvements	FW2	Acres	533																						
Range	DN1	AUM	200											X	X	X	X	X					X	X	

Visitor Contact

MA-1-06 **Information and educational material shall be provided to prospective users through community information distribution channels, at administrative headquarters, and at all Wilderness entry portals.**

MA-1-07 **User education programs shall be initiated by Wilderness managers. Information sharing should be designed to meet management objectives and increase visitor awareness of the ecosystemic complexities and values of Wilderness, rather than promote use. Visitor information and education programs shall emphasize behavior which protects Wilderness resources, inform visitors of alternative areas to visit that will meet their needs, and explain various management actions.**

MA-1-08 **Protection of ecological and social values of Wilderness or other Wilderness management objectives should be located outside the Wilderness, at trailheads, and boundary portals. Examples: the posting of formal regulations, orders, and/or permits employed to assure management objectives.**

Structures and Improvements

MA-1-09 **Managers shall determine the historic significance of any structure or improvement, its tenure in place, and its long-term function.**

MA-1-10 **Structures and other improvements which are not of historic significance shall be limited to those needed for the protection and management of Wilderness.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-11 **No permanent evidence of past human use shall be allowed unless an area, site, or structure qualifies as historically significant, is otherwise authorized by provision of the Wilderness Act or other legislation, or is necessary to attain Wilderness management objectives.** Management of non-historic structures is discussed under Management Area prescriptions.

MA-1-12 **Signing shall not be used within the Pristine WRS Class.**

MA-1-13 **Signs should be provided as necessary to protect the Wilderness resource and for administrative purposes within Transition, Semiprimitive, and Primitive WRS Classes.**

- **Geographic features shall not be signed within the Wilderness.**
- **Signing should not be provided for visitor convenience or for environmental interpretation within Wilderness but should be provided at trailheads or on routes leading into Wilderness.**
- **Regulatory or informational signs should be used in situations where control of excessive resource damage is needed and other corrective actions are unsuccessful.**

MA-1-14 **With the exception of the Pristine WRS Class where trails are not provided, trails shall be reconstructed, relocated, and maintained in a manner consistent with the purposes of the Wilderness Act and for administrative purposes within the Transition, Semiprimitive, and Primitive WRS Classes.**

MA-1-15 **Trail maintenance and reconstruction shall be sufficient to protect soil and water resources and meet minimum requirements for health and safety.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-16 **With the exception of Pristine WRS Class, the following stipulations shall apply to the Pacific Crest National Scenic Trail:**

- **Where this trail traverses Wilderness areas, it shall be managed to meet Wilderness objectives.**
- **Relocation shall be authorized only if necessary to meet Wilderness objectives.**
- **The trail shall not be publicized as a special attraction within the Wilderness.**
- **Markers should be used only to the minimum extent necessary to direct users at trail junctions.**
- **Reconstruction and maintenance should meet the same standards as other trails in this WRS Class.**
- **Winter use should be accommodated where practicable and feasible.**
- **Use of the Pacific Crest National Scenic Trail corridor shall comply with LAC standards and management area standards for each WRS Class.**

MA-1-17 **A range of trail travel opportunities should be provided in the Transition, Semiprimitive, and Primitive WRS Classes, however, trail systems shall not be expanded into currently untrailed areas without consideration of public comment and approval of the Forest Supervisor.** Trails in Transition, Semiprimitive, and Primitive WRS Classes must not access all attraction features; the opportunity for crosscountry travel must remain.

MA-1-18 **Roads shall not be permitted within Wilderness.**

MA-1-19 **Existing roads should be blocked, stabilized, revegetated with local species, and allowed to revert to natural conditions.**

MA-1-20 **Helispots utilizing natural openings shall not be marked on the ground or shown on recreation maps.** Helispots may be permitted when approved by the Forest Supervisor and may be shown on district maps intended primarily for Forest Service use.

Search and Rescue

MA-1-21 **The Forest Service should assist (within its capacity) in search, rescue, and evacuation operations as requested by the county sheriff.**

Motorized/Mechanical Equipment Use

MA-1-22 **Wilderness travel shall be by non-mechanical means consistent with the primitive character of Wilderness (FSM 2326). Use of motors or motorized equipment shall be prohibited.** The Forest Supervisor may approve exceptions for emergencies involving threats to life, health, or property. The Regional Forester may approve use of mechanized equipment for other situations.

Research

MA-1-23 **Scientific research shall be conducted in accord with the Wilderness Act and limitations identified for activities and uses in FSM 2320.**

Administrative Coordination

MA-1-24 **Where Wilderness management is shared by two or more administrative units, coordinating conferences shall be held at least annually to ensure continuity and consistency of management decisions and actions. Specific considerations should include reviewing and discussing priorities for available financial and human resources; reviewing trail maintenance schedules; reviewing outfitter guide permit administration; consideration of the Memorandum of Agreement between the US Forest Service, PNW Region, and the State of Oregon Department of Environmental Quality of October 18, 1972; and coordination of training for Wilderness management personnel to achieve consistency in public contact, program accomplishment, and law enforcement.**

Cooperation with Other Agencies

MA-1-25 **The Forest shall develop a cooperative process which allows other agencies, such as the Oregon Department of Fish and Wildlife, to meet their responsibilities within Wilderness as provided for in the Wilderness Act.**

MA-1-26 **The Forest shall apply State standards for air quality, water pollution, and noise** (see the Memorandum of Agreement between the Forest Service, PNW Region, and the State of Oregon Department of Environmental Quality of October 18, 1972).

Capacity

MA-1-27 **Wilderness management plans shall establish maximum levels of use without impairing Wilderness values and while allowing natural processes to continue (36 CFR 219.18(a)).** Capacity estimates for each Wilderness are contained in the Wilderness management plans for individual Wildernesses in Appendix A of this plan.

MA-1-28 **The Limits of Acceptable Change (LAC) System for Wilderness Planning shall be utilized to establish appropriate levels of recreation use (Stankey et al.**

General Technical Report INT-176 January 1985). Individual management plans for each Wilderness include additional information regarding the LAC System.

MA-1-29 **When human use results in effects which exceed standards and guidelines for Wilderness management as contained in this Forest Plan, actions shall be taken to mitigate and eliminate such effects.** Specific actions which depend on conditions in each Wilderness are outlined in individual management plans for each Wilderness (See *Appendix A, Wilderness Management Plans*).

MA-1-30 **The following sequence of actions should be used in most cases:**

First Level Action - Public Information and Site Restoration

1. **De-emphasize attraction of excessively used areas and promote use of alternative areas.**
2. **Inform the public of optimum user practices through public service media messages, portal notices, and personal contact. Emphasize "no-trace camping."**
3. **Adjust or remove administrative and informational signing.**
4. **Remove or reduce any facilities contributing to concentration of use beyond capacity.**
5. **Reduce accessibility.**
6. **Reduce use by anglers, in coordination with Oregon Department of Fish and Wildlife, if excessive impacts occur at a specific location.**
7. **Revegetate damaged areas and post site restoration messages.**
8. **Restrict commercial outfitter guide use of the affected area.**

Second Level Action - Use of Regulations

1. **Limit or ban campfires.**
2. **Designate campsites.**
3. **Require minimum spacing between campsites.**
4. **Impose a minimum setback from water and trails for campsites.**
5. **Restrict types of use in a specific area or on trails leading to an affected area.**

6. **Limit length of stay.**

7. **Close revegetated campsites.**

8. **Install toilet facilities to correct major sanitation problems (Transition and Semiprimitive WRS Classes only).**

9. **Restrict group size.**

Third Level Action - Restrict Number of Users

1. **Allow only day use.**

2. **Restrict time of entry.**

3. **Restrict location of entry.**

4. **Restrict number of entries.**

Fourth Level Action - Close Area to All Users

1. **An area may be closed to all recreation use until it is rehabilitated and restored to Wilderness conditions.**

LAND USE MANAGEMENT

MA-1-31 **Special use permits shall require that commercial outfitter guides practice minimum impact Wilderness use.** Appropriate information describing minimum impact Wilderness use will be provided to the guides.

MA-1-32 **Permits should require commercial outfitter guides to bear the responsibility for trail maintenance and other resource management activities resulting from uses under the permit.** In some cases this responsibility may be discharged by the guide actually performing work; in other cases a collection agreement to cover Forest Service costs in discharging the permittee's responsibilities may be used. Outfitter guides operating under a special use permit in Wilderness may be encouraged to relocate their provided services to non-Wilderness areas.

MA-1-33 **Expansion of existing summer and winter outfitter guide services should consider the following:**

Educational programs providing opportunities to alter-abled persons and having minimum resource impacts may be considered for expanded use.

Giving preference to those outfitter guides who have demonstrated that they model sound Wilderness ethics and practice quality customer service. The annual evaluation form will provide relevant information.

MA-1-34 **When an existing outfitter guide permitee sells or discontinues all or part of his or her business, an evaluation shall be made to determine whether recreational use is approaching maximum levels permitted in this Plan, using LAC data**

and evaluating other relevant resource management considerations. The following options shall then be considered:

Reallocate all or a reduced number of service days to the new owner.

Issue new permits for all or a reduced number of service days to new permittees following issuance of a prospectus and subsequent competitive selection.

Reallocate all or a reduced number of service days to one or more of the existing outfitter guide permitees.

Elect not to reallocate or issue a new permit for any number of service days.

FISH AND WILDLIFE MANAGEMENT

MA-1-35 **Riparian habitat shall be protected from human and livestock damage (FSM 2636.4).**

MA-1-36 **Reestablishment of native species or establishment of threatened, endangered, and sensitive species shall be permitted to mitigate previous human activities.** This standard applies only for those species resident prior to classification.

MA-1-37 **Vertebrate and invertebrate populations shall be monitored to ensure early detection of possible threats to non-Wilderness resources.**

M1-1-38 **No action shall be taken to control naturally occurring population dynamics unless a clear threat exists to resources outside Wilderness. If such a threat exists, an environmental analysis (consistent with NEPA process requirements) shall be conducted to determine if suppression actions are appropriate. The least adverse effects to Wilderness values shall be emphasized.**

MA-1-39 **Fish and wildlife indigenous to the area at the time of designation shall be maintained with emphasis on preservation of threatened and endangered species.**

MA-1-40 **All habitat improvements and activities necessary for management of indigenous fish and wildlife populations in Wilderness shall be accomplished with non-motorized equipment and shall conform to management plan guidelines.** Chemical treatment of waters may be permitted for the reestablishment of native aquatic species, the establishment of threatened and endangered aquatic species, or to correct undesirable conditions resulting from human activity only after an environmental analysis of the proposed action has been completed.

MA-1-41 **Fish stocking should not be expanded unless necessary to achieve Wilderness management objectives.** Fish stocking may continue where it has historically occurred. **Stocking of native species should be given preference.**

MA-1-42 **Aerial fish stocking should be permitted where this practice is of record prior to 1964 Wilderness Act or to classification of an area as Wilderness. Landing of**

aircraft shall be prohibited. Stocking should not interfere with peak recreation use. Barren lakes may be considered for stocking of fish after agreement between the Forest Service and Oregon Department of Fish and Wildlife that scientific and Wilderness values will not be affected. Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-43 **Natural ecological dynamics of fish and wildlife populations shall be allowed to occur.** Where non-Wilderness resource values are threatened an environmental analysis of site specific conditions should be conducted through the NEPA process to determine appropriate actions.

MA-1-44 **The taking of fish and wildlife shall be permitted under state regulations. Management of hunting and fishing activities shall be consistent with Wilderness values. The use of direct fish and wildlife control measures shall be applied only where clear need is demonstrated (FSM 2323.3).**

AIR QUALITY

MA-1-45 **Air quality shall be maintained in accord with the Federal Clean Air Act and state air quality standards.**

WATER AND SOIL MANAGEMENT

MA-1-46 **Water and soil management practices that modify plant cover, treat soil mantles (except for site rehabilitation), or are designed to supplement natural water yield shall be prohibited in Wilderness (FSM 2502 and 2323.4).**

MA-1-47 **Any effects on water quality from management activities should be only transitory in nature so that water quality returns to its previous level when the activity ceases. Water quality changes should also comply with Environmental Standards specified in Chapter 340-14-020, Oregon Administrative rules.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-48 **Soil compaction shall not exceed limits which will prevent natural plant establishment and growth except at established campsites, administrative sites, and trails.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-49 **Soil displacement and erosion should closely approximate rates of natural processes.**

RANGE MANAGEMENT

MA-1-50 **Grazing by recreational stock should be permitted. Confined stock shall be at least 200 feet from ponds, lakes, springs, streams, trails, camps, and other high interest features.**

Commercial grazing allotments may be allowed if under approved management plan and to the extent that such use is compatible with all Wilderness resource values. Exception: See Management Area 1d for management direction for Pristine WRS Class.

VEGETATION MANAGEMENT

MA-1-51 **Pathogens and plant diseases shall be monitored to ensure early detection of possible threats to resources outside the Wilderness.**

MA-1-52 **Actions taken to control natural ecosystem dynamics should be avoided unless a clear threat exists to resources outside Wilderness. If such a threat exists, an environmental analysis (consistent with NEPA process requirements) shall be conducted to determine if suppression actions are appropriate. Actions having the least adverse effect on Wilderness values shall be emphasized.**

MA-1-53 **Timber harvest shall not be allowed in response to tree mortality associated with ecosystem processes in Wilderness.**

MA-1-54 **All revegetation projects shall meet the following conditions:**

Projects should be undertaken only where use patterns which have caused loss of vegetation can be modified.

Only species native to the Wilderness should be used.

Revegetated areas should be closed until new vegetation is established. Temporary signing or string fences should be used as a protective barrier where appropriate.

Revegetation should be site specific and may include:

a. rest only (elimination of use for a period allowing natural revegetation)
b. rest plus seedbed preparation to encourage natural revegetation
c. rest plus seedbed preparation and planting.

MA-1-55 **Fertilizer should be used on a limited basis and only where a clear need is demonstrated.**

MA-1-56 **Management of vegetation shall be directed toward retaining the primeval character of the Wilderness environment and allowing natural ecological processes to operate freely. Trees shall not be harvested or sold except under specified conditions of valid mining claims or under emergency conditions such as fire, insect, or disease control (FSM 2323.5).**

MA-1-57 **Healthy native vegetation around campsites shall be maintained.**

MA-1-58 **All standing vegetation (dead or living) should be left in place.** Dead down vegetation may be utilized in amounts that can be replaced annually through natural accumulation.

MA-1-59 **Human presence should be managed to avoid hazards from dead standing vegetation.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-60 **There shall be no long-term modification, and only limited short-term modification of natural plant succession as a result of human activity.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-61 **Impacts along trails should be within the limits noted in the design specifications for construction or reconstruction.** Exception: See Management Area 1d for management direction for Pristine WRS Class.

MA-1-62 **Effects to vegetation along trails shall be confined to trail corridors.** exception: See Management Area 1d for management direction for Pristine WRS Class.

MINERALS MANAGEMENT

MA-1-63 **Where valid leases or locatable mineral interests exist, the rights of the minerals claimant shall be met with the least possible effect on Wilderness resources.** Minerals in Wilderness are withdrawn from all forms of appropriation under mining laws effective January 1, 1984 and from disposition under all laws and amendments pertaining to mineral leasing.

MA-1-64 **No common materials pits or quarries shall be permitted.**

MA-1-65 **Operating plans shall be developed for all activities.**

The operating plan shall emphasize restoration of the site by minimizing, mitigating, preventing, or repairing adverse impacts on Wilderness.

No geothermal leasing shall be permitted in Wilderness.

CULTURAL RESOURCE MANAGEMENT

See *Forest-wide Standards and Guidelines for Cultural Resources* for additional or more complete discussion of cultural resource management in Wilderness.

MA-1-66 **Cultural resources shall be inventoried and historic significance determined.**

MA-1-67 **Cultural resources determined eligible for inclusion on the National Register of Historic Places should be periodically inventoried to discover possible vandalism, artifact theft, or unauthorized use.**

MA-1-68 **Cultural resources evaluated as having National Register significance should be periodically inventoried to evaluate the effects of environmental factors.**

MA-1-69 **Eligible historic sites and historic trails shall be maintained and adverse effects shall be mitigated.** Protective measures may range from complete avoidance of the site and protection of the environmental setting to mitigation procedures which conserve the historic or scientific values.

MA-1-70 **Decisions to maintain or abandon, but not remove, historic structures shall meet requirements of 36 CFR 800.**

MA-1-71 **Retained or maintained historically significant structures shall be managed to have a minimum impact on other Wilderness resources. A management plan shall be developed for such structures.**

MA-1-72 **Historically significant structures that are to be abandoned shall be allowed to deteriorate naturally in accord with 36 CFR 800. If it is determined that a structure is not of historic significance it should be removed by a method compatible with Wilderness objectives and the site should be restored to a natural condition.**

MA-1-73 **Nonhistoric structures shall not be maintained, rehabilitated, restored, or interpreted.**

FIRE MANAGEMENT

See *Forest-wide Standards and Guidelines* for additional or more complete discussion of fire management in Wilderness.

MA-1-74 **Fires resulting from human activities shall be prevented, controlled, and suppressed.**

MA-1-75 **Natural fires which threaten life or property within Wilderness or pose unacceptable risk to life, resources, or property outside Wilderness shall be controlled or suppressed.**

MA-1-76 **Suppression practices should have the least physical impact on the land consistent with other management considerations. Preference should be given to use of natural fuel breaks.** In some cases direct attack with a minimum width of hand fireline, or wet line using power driven pumps and hose may be more cost-effective and cause the least overall damage to Wilderness values.

MA-1-77 **Fire management activities within Wilderness shall be compatible with Wilderness management objectives. Preference should be given to methods and equipment that minimize: alteration of the landscape; disturbance of surface vegetation and soil; disturbance of visitor solitude; reduction of visibility; adverse effects on air quality; disturbance to wildlife habitat or cultural resources.**

MA-1-78 **After the fire is declared out, appropriate actions should be taken to rehabilitate and restore the site to a natural condition.**

MA-1-79 **The need for mechanized equipment (portable pumps, power saws, etc.) in suppression efforts shall be determined by the Escaped Fire Situation Analysis.**

MA-1-80 **The use of tractors or ground disturbing mechanized equipment shall be approved by the Regional Forester.**

MA-1-81 **The use of helicopters shall be approved by the Forest Supervisor.**

MANAGEMENT AREA 1a WILDERNESS

Emphasis: Transition Wilderness Resource Spectrum Class

Management Goals

The Transition WRS Class areas will be managed:

- To regain through rehabilitation, restoration, and regulation the characteristics of the Semiprimitive WRS Class.
- With an emphasis on visitor education and information, and public outreach programs.
- At a capacity that will preserve, enhance, and restore the Wilderness resource and opportunities for Wilderness recreation.
- By implementation of the Limits of Acceptable Change System and process.
- To comply with the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984 (Public Law 98-328).

Desired Future Condition

By application and implementation of Wilderness S&Gs and individual Wilderness Management Plans, the Transition WRS Class areas will eventually be eligible for reclassification as Semiprimitive Class. Through management activities, the Transition Class areas will be restored to predominantly unmodified natural environments. These areas will offer moderate to high opportunities for experiencing isolation, closeness to nature, and tranquility. Visitors will be challenged by a natural environment with a moderate to high degree of risk.

Description

The Transition WRS Class is characterized by conditions of relatively concentrated visitor use where opportunities for solitude are limited and management activities are highly evident. Those portions of the Wilderness where Transition Class management applies are typically staging areas or trailheads. Also included are areas where day use is predominant due to easy access and relatively short trails.

Standards And Guidelines

GENERAL WILDERNESS MANAGEMENT

Area Use

MA-1a-01 **There should be greater than an 80% chance of not more than 12 encounters with other parties per day while on trails.**

MA-1a-02 **There should be an 80% probability that 5 or fewer camps are visible from any other campsite.**

Visitor Contact

MA-1a-03 **Management presence shall conform to established party size limitations and social and resource standards.** Management activities may be scheduled during peak use periods if necessary. Where necessary to meet management objectives Wilderness Rangers may contact 75-100 percent of the overnight users, particularly at areas of concentrated recreation use.

MA-1a-04 **Visitor contacts shall:**

- **Inform users of Wilderness values and management goals and objectives.**
- **Encourage user behavior that is respectful of the Wilderness resource.**
- **Ensure that visitor activities are in compliance with established management standards and regulations.**

Management presence may be moderate to high and generally through contact with Wilderness Rangers and other personnel.

Structures and Improvements

MA-1a-05 **Native and natural materials should dominate. Dimensional and non-native materials may be used, but should not be apparent to the Wilderness user. Structures should harmonize with the site.** In extreme cases, primitive-type toilets may be provided for resource protection and human safety only if all other resource changes remain within acceptable limits.

MA-1a-06 **No distance information should be included on signs.** A maximum of two directional signs may be provided at two-way junctions with no more than two route designations per sign.

MA-1a-07 **Trail construction and maintenance should be consistent with protection of Wilderness values and the S&Gs outlined in the Forest Plan.**

FISH AND WILDLIFE MANAGEMENT

MA-1a-08 **Evaluation of the effects of visitor use on wildlife habitat should include consideration of adjacent areas as well as the Transition WRS Class. Effects of visitor use shall not decrease habitat effectiveness in Wilderness by more than 20% (average of all WRS Classes).**

VEGETATION MANAGEMENT

MA-1a-09 **Loss of trees due to recreational effects should not occur. Fewer than 6 trees per site should show signs of recreation related damage.**

MA-1a-10 **Loss of groundcover should be less than 625 square feet at any one site, or less than 1.5 percent of any acre. Accepted modifications are those which should generally recover in one growing season.**

MANAGEMENT AREA 1b - WILDERNESS

Emphasis: Semiprimitive Wilderness Resource Spectrum Class

Management Goals

The Semiprimitive WRS Class areas will be managed:

- By minimum, but subtle, on-site controls and restrictions.
- With an emphasis on visitor education and information, and public outreach programs.
- At a capacity that will preserve and restore the Wilderness resource and opportunities for Wilderness recreation.
- By implementation of the Limits of Acceptable Change System and process.
- To comply with the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984 (Public Law 98-328).

Desired Future Condition

The Semiprimitive WRS Class will offer moderate to high opportunities for experiencing isolation from the sights and sounds of human activity; independence; closeness to nature; tranquility; and self-reliance in a natural environment that offers a moderate to high degree of challenge and risk. The character and unique Wilderness values of the Semiprimitive WRS Class areas will be maintained, enhanced, and restored if necessary. Effective wildlife habitat and ecosystem dynamics have not been significantly affected by recreation use of the area.

Description

The Semiprimitive WRS Class is characterized by predominantly unmodified natural environments of moderate to large size. Visitor use may be low, but encounters between users may be fairly common and evidence of human use may be relatively apparent.

Standards and Guidelines

GENERAL WILDERNESS MANAGEMENT

Area Use

MA-1b-01 **There should be greater than an an 80% chance of not more than 10 encounters per day while on trails.**

MA-1b-02 **There should be an 80% probability that 2 or fewer campsites are visible or audible from any other camp.**

Visitor Contact

MA-1b-03 **Management presence in the Semiprimitive WRS Class should be moderate to low generally through periodic contact by Wilderness Rangers and other personnel.**

MA-1b-04 **Visitor contacts shall:**

- **Inform users of Wilderness values and management goals and objectives.**
- **Encourage user behavior that is respectful of the Wilderness resource.**
- **Ensure that visitor activities are in compliance with established management standards and regulations.**

MA-1b-05 **Management presence in this management area should conform to established party size limitations and social and resource standards. Where feasible, management activities should be scheduled during low use periods.** Where necessary to meet managment objectives, Wilderness Rangers may contact from 50-75 percent of the overnight users within the Semiprimitive WRS Class, particularly in areas of concentrated recreation use.

Structures and Improvements

MA-1b-06 **Native and natural materials should dominate and structures should harmonize with the site. Dimensional and non-native materials may be acceptable, but should not be apparent to Wilderness users.** In extreme cases, primitive-type toilets may be provided for resource protection and human safety only if all other resource changes remain within acceptable limits.

MA-1b-07 **A maximum of two directional signs should be provided at two-way junctions with no more than two route designations per sign. No distance information should be included on signs.**

MA-1b-08 **Trail reconstruction and maintenance should be consistent with protection of Wilderness values and the S&Gs outlined in the Forest Plan.**

FISH AND WILDLIFE MANAGEMENT

MA-1b-09 **Evaluation of the effects of visitor use on wildlife habitat should include consideration of adjacent areas as well as the Transition WRS Class. Effects of visitor use shall not decrease habitat effectiveness in Wilderness by more than 20% (average of all WRS Classes).**

VEGETATION MANAGEMENT

MA-1b-10 **Loss of trees due to recreational effects should not occur. Fewer than 6 trees per site should show signs of recreation related damage.**

MA-1b-11 **Loss of groundcover should be less than 400 square feet at any site or 1 percent of any acre. Accepted modifications are those which should recover in one growing season.**

MANAGEMENT AREA MANAGEMENT AREA 1c - WILDERNESS

Emphasis: Primitive Wilderness Resource Spectrum Class

Management Goals

The Primitive WRS Class areas will be managed:

- In a non-obtrusive manner emphasizing minimal visible evidence of management restrictions and controls.
- To ensure that Wilderness practices provide for indigenous plant and animal communities to sustain natural processes, preserve endangered and threatened species, and ensure that levels of human use are compatible with Wilderness values.
- With an emphasis on visitor education and information, and public outreach programs.
- At a capacity that will preserve and restore the Wilderness resource and opportunities for Wilderness recreation.
- By implementation of the Limits of Acceptable Change System and process.
- To comply with the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984 (Public Law 98-328).

Desired Future Condition

Wilderness areas classified as Primitive WRS Class will be essentially unmodified natural environments offering visitors the opportunity to experience considerable isolation from the sights and sounds of human activity; independence; closeness to nature; solitude and tranquility. Visitors will understand that Primitive WRS Class areas require a high degree of self-reliance and knowledge of primitive outdoor skills in order to meet the inherent challenge and risk.

Description

The Primitive WRS Class includes areas surrounding existing trails which are essentially unmodified natural environments. Concentration of visitors is low and evidence of human use is minimal.

Standards and Guidelines

GENERAL WILDERNESS MANAGEMENT

Area Use

MA-1c-01 **There should be greater than an 80% chance of not more than 7 encounters per day while on trails.**

MA-1c-02 **There should be an 80% probability that 1 or no camps are visible from any other campsite.**

Visitor Contact

MA-1c-03 **Management presence in this management area should conform to established party size limitations and social and ecological standards. Emphasis should be placed on scheduling work during low use periods.** Wilderness Rangers may contact from 20-30 percent of the overnight users within the Primitive WRS Class, particularly in areas of concentrated recreation use.

MA-1c-04 **Management presence in the Primitive WRS Class should be low and generally through periodic contact by Wilderness Rangers and other personnel.**

MA-1c-05 **Visitor contacts should:**

- **Encourage user behavior that is respectful of the Wilderness resource.**
- **Ensure that visitor activities are in compliance with established management standards and regulations.**

MA-1c-06 **Visitor contact to promote Wilderness values and management goals and objectives should be minimized in this WRS Class.**

Structures and Improvements

MA-1c-07 **Native and natural materials should be used. Structures should harmonize with the site and be generally unnoticeable to users.**

MA-1c-08 **Toilets should not be provided in the Primitive WRS Class.**

MA-1c-09 **No more than one directional sign with no more than two route designations indicated should be provided at two-way trail junctions. No distances should be indicated.**

MA-1c-10 **Trail management, including reconstruction and maintenance, should be consistent with the protection of Wilderness values.**

FISH AND WILDLIFE MANAGEMENT

MA-1c-11 **Generally, wildlife should be unaffected by recreation or other human use. Recreation use should not displace wildlife from critical habitat.**

VEGETATION MANAGEMENT

MA-1c-12 **No loss of trees due to recreational effects should occur.**

MA-1c-13 **Fewer than 4 trees per site should show signs of recreation related damage, such as exposed roots.**

MA-1c-14 **Loss of groundcover should be less than 225 square feet at any site or 0.5 percent of any acre. Accepted modifications are those which should recover in one growing season.**

MANAGEMENT AREA MANAGEMENT AREA 1d - WILDERNESS

Emphasis: Pristine Wilderness Resource Spectrum Class

Management Goals

Those areas classified as Pristine WRS Class will be managed:

- To remain entirely untrammeled and unaffected by human activity.
- To maintain natural processes and ecological dynamics.
- To assure the retention of unmodified landscape as a remnant of the Cascade Range prior to the entry of Euro-Americans.
- At a capacity that will preserve the Wilderness resource and opportunities for Wilderness recreation compatible with the Pristine WRS classification.
- Through implementation of the Limits of Acceptable Change System and process.
- To comply with the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984 (Public Law 98-328).

Desired Future Condition

The area will be free of evidence of management restrictions and controls. Facilities will not be required to protect the Wilderness resource or structures will not be present unless considered eligible for inclusion on the National Register of Historic Places. Natural ecosystem processes will not be measurably affected by human use. Visitors will understand that Pristine WRS Class areas require a maximum degree of self-reliance and knowledge of primitive outdoor skills in order to meet the inherent challenge and risk of an entirely natural environment.

Description

The Pristine WRS Class includes the untrailed areas of Wilderness. These are areas characterized by an extensive, unmodified environment. Natural ecosystem processes and conditions have not been measurably affected by human use. This management area provides the most outstanding opportunities for isolation and solitude and is virtually free of evidence of past human activities. Visitors to Pristine Wilderness areas have only infrequent encounters with other users. Extensive opportunities exist to travel cross-country.

Standards and Guidelines

GENERAL WILDERNESS MANAGEMENT

Area Use

MA-1d-01 **There should be greater than an 80% chance of not more than 1 encounter per day.**

MA-1d-02 **Campsites should not be visible or audible from any other campsites. Most, if not all, campsites which have been located by Wilderness Rangers should be naturalized.**

Visitor Contact

MA-1d-03 **Management presence in the Pristine WRS Class should be low.** Wilderness Rangers and other personnel will only occasionally be present.

MA-1d-04 **Visitor contacts shall:**

- **Encourage user behavior that is respectful of the Wilderness resource.**
- **Ensure that visitor activities are in compliance with established management standards and regulations.**

MA-1d-05 **Visitor contact to promote Wilderness values or management goals and objectives should be avoided in this WRS Class.**

MA-1d-06 **Management presence should conform to established party size limitations and social and ecological standards. Management activities should be scheduled for low use periods.**

MA-1d-07 **Wilderness Rangers should only infrequently contact recreationists; less than 3 percent of users should be directly contacted.**

Structures and Improvements

MA-1d-08 **Structures should be of native, natural materials and should be unnoticeable to users.**

MA-1d-09 **No toilets should be provided in the Pristine WRS Class.**

MA-1d-10 **User travel should be managed to avoid the establishment of trails.**

MA-1d-11 **User-developed trails to obscure locations should be rehabilitated.**

MA-1d-12 **Structures and other improvements which are not of historic significance shall be limited to only those critical for protection, use, and management of Wilderness. In the Pristine WRS Class there should be very few situations which make structures of any sort acceptable.**

MA-1d-13 **Signs shall not be provided within this WRS Class.**

MA-1d-14 **Trails shall not be provided within this WRS Class.**

FISH AND WILDLIFE MANAGEMENT

MA-1d-15 **Wildlife populations should be unaffected by recreation or other human uses.**

MA-1d-16 **Lakes naturally barren of fish should not normally be considered for stocking.**

WATER AND SOIL MANAGEMENT

MA-1d-17 **Natural water quality shall be maintained; no measurable degradation should be allowed. Water quality shall also comply with Environmental Standards specified in Chapter 340-14-020, Oregon Administrative rules.**

RANGE MANAGEMENT

MA-1d-18 **Commercial grazing allotments should not be allowed in the Pristine WRS Class.**

VEGETATION MANAGEMENT

MA-1d-19 **No loss of trees due to recreational impacts should occur. Fewer than 2 trees per site should show signs of recreation related damage such as exposed roots.**

MA-1d-20 **Loss of groundcover should be less than 100 square feet at any site or 0.5 percent of any acre. Accepted modifications are those which should recover in one growing season.**

MA-1d-21 **There shall be no long-term modification of natural plant succession as a result of human activity.**

MANAGEMENT AREA 2a

Emphasis: Oregon Cascades Recreation Area
Semiprimitive Motorized Use

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a semiprimitive motorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for the conservation of unique geographic, topographic, biological, and ecological processes, as well as significant scenic, wildlife, recreation, and watershed values.

Desired Future Condition

Management activities will maintain the area in a near natural state while providing a wide range of recreation opportunities. There will be a moderate degree of isolation from the sights and sounds of human activity along developed hiking trails and primitive campgrounds. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are both motorized and nonmotorized in nature. Specific activities are centered around nonconsumptive use of land and water areas including hiking, fishing, hunting, horseback riding, ORV use, canoeing, nature study, camping, mountain biking, and snowmobiling. There will be moderate evidence of other users, but the concentration of use will remain low. Human activities will not interfere with natural processes involving the development of vegetation communities or the interactions of wildlife with its habitat. No programmed timber harvest will occur. Access will include trails and existing roads within the management area. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions. Site modification will be minimal and not draw the attention of area users.

Description

This portion of the OCRA administered by the Forest consists of 22 miles of trail corridors within the Timpanogas basin. Most of the area is a true fir-mountain hemlock forest type, dotted with numerous small lakes, and forms the headwaters of the Middle Fork of the Willamette River. Developed recreation use is concentrated at two non-fee campgrounds.

Standards and Guidelines

RECREATION MANAGEMENT

MA-2a-01 **This management area shall be made available for maximum use for a range of activities that provide Semiprimitive Motorized experiences as directed in the 1989 OCRA Management Plan.** (See Appendix B, OCRA Management Plan.)

MA-2a-02 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-2a-03 **Recreation stock should be held overnight outside the foreground viewing areas of lakes, streams, camp areas, and trailsides.**

MA-2a-04 **Access by motorized vehicles, other than on roads to developed sites, shall be limited to snowmobiles, trailbikes, and ORVs not greater than 42 inches in width.**

FOREST TRAIL SYSTEM

MA-2a-05 **Trail feasibility should be coordinated with adjacent managing forests.** The development of ORV, mountain bike and cross-country ski trails are encouraged.

SCENIC RESOURCES

MA-2a-06 **All design and implementation practices should be modified as necessary to meet the VQO of Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Partial Retention.**

WILDLIFE MANAGEMENT

MA-2a-07 **Management activities should be implemented in such a way as to minimize adverse effects on wolverine habitat.**

MA-2a-08 **Habitat improvements, including vegetation management, to benefit wolverines shall be permitted.**

TIMBER MANAGEMENT

MA-2a-09 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-2a-10 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to Semiprimitive Motorized recreation values.**

LANDS

MA-2a-11 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-2a-12 **Location of utility corridors shall be excluded in this Management Area.**

MINERALS AND ENERGY

MA-2a-13 **Subject to valid existing rights, all lands within this management area are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and geothermal leasing and all amendments thereto.** (*Oregon Omnibus Wilderness Act of 1984.*)

MA-2a-14 **Subject to valid existing rights, all mining activities within the area shall be consistent with the purposes for which the OCRA is established.**

MA-2a-15 **Exploration and development access requirements, as well as operating plans, shall include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Motorized recreation.**

FACILITIES

MA-2a-16 **Roads serving developed sites shall remain open.** All other existing roads are closed to motorized use and access, except off-road vehicles.

MA-2a-17 **No new roads shall be developed.**

MA-2a-18 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual effects should appear subtle to area users.

MA-2a-19 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.**

MANAGEMENT AREA 2b

Emphasis: Oregon Cascades Recreation Area
Semiprimitive Nonmotorized Use

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a semiprimitive nonmotorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for the conservation of unique geographic, topographic, biological, and ecological processes, as well as significant scenic, wildlife, recreation, and watershed values.

Desired Future Condition

Management activities will maintain the area in a near natural state while providing a wide range of recreation opportunities. There will be a high degree of isolation from the sights and sounds of human activity away from developed hiking trails and primitive campgrounds. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are exclusively nonmotorized and nonmechanized in nature, except for permitted over-the-snow use. Specific activities are centered around nonconsumptive use of land and water areas including hiking, mountain climbing, nature study, camping, fishing, hunting, and snowmobiling. There will be some evidence of other users, but the concentration of use will remain low. Areas providing semiprimitive nonmotorized recreation opportunities may be separated by motorized access corridors. Human activities will not interfere with natural processes involving the development of vegetation communities or the interactions of wildlife with its habitat. No programmed timber harvest will occur. Access within and through the area will be limited to trails. Facilities, except those necessary to protect fragile resources, will be limited to trail shelters, and sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions. Site modification will be minimal and not draw the attention of area users.

Description

This portion of the Oregon Cascades Recreation Area (OCRA) administered by the Forest consists of the areas outside of trail and access corridors within the Timpanogas basin. Most of the area is a true fir-mountain hemlock forest type, dotted with numerous small lakes, and forms the headwaters of the Middle Fork of the Willamette River.

Standards and Guidelines

RECREATION MANAGEMENT

MA-2b-01 **This management area shall be made available for maximum use for a range of activities that provide Semiprimitive Nonmotorized experiences as directed in the 1989 OCRA Management Plan.**

MA-2b-02 **Groups should not exceed 25 including livestock.** Larger groups may be accommodated by permit.

MA-2b-03 **Recreation stock should be held overnight outside the foreground viewing areas of lakes, streams, camp areas, and trails.**

MA-2b-04 **The general area shall be closed to off-road and off-trail vehicles, except for over-the-snow use.** Mountain bike use is restricted to established trails and roads.

SCENIC RESOURCES

MA-2b-05 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

WILDLIFE MANAGEMENT

MA-2b-06 **Management activities should be implemented in such a way as to minimize adverse impacts to wolverine habitat.**

MA-2b-07 **Habitat improvements, including vegetation management, to benefit wolverine shall be permitted.**

TIMBER MANAGEMENT

MA-2b-08 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-2b-09 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to Semiprimitive Nonmotorized recreation values.**

LANDS

MA-2b-10 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-2b-11 **Location of utility corridors shall be excluded in this management area.**

MINERALS AND ENERGY

MA-2b-12 **Subject to valid existing rights, all lands within this management area are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and geothermal leasing and all amendments thereto.** (*Oregon Omnibus Wilderness Act of 1984.*)

MA-2b-13 **Subject to valid existing rights, all mining activities within the area shall be consistent with the purposes for which the OCRA is established.**

FACILITIES

MA-2b-14 **Roads serving developed sites shall remain open.** All other existing roads are closed to motorized use and access.

MA-2b-15 **No new roads shall be developed.**

MA-2b-16 **New trails should be commensurate with management objectives established in the OCRA Plan.**

MA-2b-17 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual effects should appear subtle to area users.

MA-2b-18 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.**

MANAGEMENT AREA 3

Emphasis: H. J. Andrews Experimental Forest

Management Goals

The goals of this Management Area are to:

- Develop better methods for managing forested lands in the Western Cascades by studying the effects of management activities on soils, fish, wildlife, site productivity, water quality and quantity.
- Research, monitor, and conserve genetic diversity and ecosystem functioning as a designated International Biosphere Reserve and Experimental Ecological Reserve.

Desired Future Condition

The H. J. Andrews Experimental Forest (HJA) will be managed to meet the continuing demand for knowledge to protect and manage the renewable resources of forest lands. Research activities will alter the vegetation and landforms on an irregular spatial and temporal basis. Many stages of natural plant succession will be observable across the landscape as a result of timber harvest and road construction. The appearance of these human alterations will be softened through time. Alterations induced for the purpose of research will create short-term impacts to wildlife habitat, soil, and water resources. These impacts may be viewed as detrimental from an environmental standpoint, but they are desirable and essential in a research context. Protection of two spotted owl habitat areas located within the HJA will require restrictions for some research activities. Other minor changes in area conditions are anticipated if and when natural events such as wind, fire, and pests occur. Roads will be maintained for access and safety purposes. There are no developed recreation facilities within the HJA but many forms of dispersed recreation will continue to be enjoyed throughout the drainage, except where restrictions are posted.

Description

The HJA contains 15,700 acres encompassing the entire Lookout Creek drainage north of the town of Blue River. It has steep densely forested, slopes ranging from 1,500 to 5,000 feet elevation. Rich forest soils and a mild wet climate provide an excellent growing medium for high quality/quantity Douglas-fir with minor amounts of other conifer and hardwood species. Administration of the Experimental Forest is a joint effort of the Pacific Northwest Forest and Range Experiment Station and the Blue River Ranger District.

Standards and Guidelines

ADMINISTRATION

MA-3-01 **Public use shall be managed under the same standards as for the National Forest lands, except where additional restrictions are required to protect research project areas or objectives.**

MA-3-02 **The objectives of the 5-year coordination agreement between the Pacific Northwest Forest and Range Experiment Station (PNW) and the Willamette National Forest shall be met.** This includes providing all necessary support and protection measures specified.

MA-3-03 **The research and operating plan prepared by the PNW should be reviewed annually to ensure research projects are designed to provide solutions to current and anticipated management problems.**

Any or all of the Forest-wide Standards and Guidelines may be waived to meet the needs of specific research needs.

RECREATION MANAGEMENT

MA-3-04 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Modified.**

MA-3-05 **The general area shall be closed to off-road vehicles.**

SCENIC RESOURCES

MA-3-06 **All design and implementation practices should be modified as necessary to at least meet the VQO of Maximum Modification.**

TIMBER MANAGEMENT

MA-3-07 **No programmed harvest shall be scheduled.** Harvest activities are planned, designed, and administered to accomplish and support research objectives or projects.

Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis. (Refer to Forest-wide Standards for Changed Environmental Conditions.)

MA-3-08 **Timber mangement research projects shall be included in the Forest's 5-year action plan and accomplished through the normal timber management program.**

LANDS

MA-3-09 Special uses should be allowed if consistent with agreement objectives.

MINERALS AND ENERGY

MA-3-10 These lands have been administratively withdrawn from mineral entry. (*Public Land Order 1702*).

MANAGEMENT AREA 4

Emphasis: Research Natural Areas

Management Goals

The goals of this management area are to preserve naturally occurring physical and biological units where natural conditions are maintained insofar as possible for the purposes of:

- Comparison with those lands influenced by man.
- Provision of educational and research areas for ecological and environmental studies.
- Preservation of gene pools for typical as well as rare and endangered plants and animals.

Desired Future Condition

Research Natural Areas (RNAs) will be managed to provide for naturally occurring physical and biological processes without undue human intervention. Plant and animal communities native to an area will be allowed to evolve unaltered, serving as a gene pool source and as a baseline for measuring long-term ecological change. RNAs will provide for nonmanipulative environmental research, observation and study. They will serve as control areas for comparing results from manipulative research, and for monitoring effects of resource management techniques and practices. Areas will preserve a wide spectrum of pristine values or natural settings that have unique educational and scientific interest. No programmed timber harvest will occur. Access will be limited to trails and roads that do not compromise the objectives of the RNA.

Description

This prescription applies to existing RNAs and areas recommended for inclusion during the life of this Plan. The sites designated as Research Natural Areas include:

Area Name	Acres	District	Date Established
Ollalie Ridge	720	McKenzie	1963
Gold Lake Bog	463	Oakridge	1965
Wildcat Mountain	1,000	Sweet Home	1968
Middle Santiam	1,145	Sweet Home	1979
Hagan Block	1,280	Blue River	1990
McKenzie Pass	1,195	McKenzie	1990
Rigdon Point	300	Rigdon	1990
Three Creeks	661	Sweet Home	1990
Torrey-Charlton	2,154	Oakridge	1990
Wildcat Mtn Addition	384	Sweet Home	1990

Site-specific resource values and management activities will be prescribed in individual Establishment Records. The Regional Forester and Pacific Northwest Station Director will prepare an Establishment Report for each recommended area; this document will describe features, objectives for establishment, and specific management direction.

Standards and Guidelines

PLANNING

MA-4-01 **A management plan shall be prepared for each RNA to fulfill objectives of the Establishment Report.**

MA-4-02 **An implementation schedule for baseline data collection and periodic remeasurement shall be prepared for each RNA.** The baseline data will serve as a benchmark for research needs as well as for long-term assessments of changes in the forest ecosystem.

MA-4-03 **Ecological responses to management activities or natural disturbances on or adjacent to RNAs should be measured when appropriate. Studies may be prioritized based on the significance of the potential impact.**

RECREATION MANAGEMENT

MA-4-04 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-4-05 **Recreation activities and uses within RNAs shall be discouraged.** This includes overnight camping; recreation use within 200 feet of lakes, ponds and streams; and pack and saddle stock use.

MA-4-06 **All recreation ORV use shall be prohibited.**

MA-4-07 **Hunting and trapping shall be discouraged.**

MA-4-08 **If other recreation use threatens research or education values, closures or permits should be instituted.**

MA-4-09 **Educational use of an RNA should generally be directed toward the graduate level, but may be approved for any educational level.**

MA-4-10 **On-site interpretive or demonstrative facilities shall be prohibited.**

MA-4-11 **Publicity that would attract the general public to the RNA shall be avoided.**

FOREST TRAIL SYSTEM

MA-4-12 **New trails shall not be constructed unless they are needed for research purposes.** Existing trails may be allowed to remain as long as the RNA objectives are not compromised.

WILDERNESS

MA-4-13 **If an RNA is established within wilderness, wilderness management direction shall take precedence.**

SCENIC RESOURCES

MA-4-14 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation.**

WILDLIFE MANAGEMENT

MA-4-15 **Introduction of exotic plant and animal species shall not be permitted.** Reintroduction of former native species, including fish stocking, may be permitted if the objectives of the RNA are met.

MA-4-16 **Control of excessive animal populations should be evaluated and control activities may be implemented where such populations threaten the RNA objectives.**

Habitat improvement projects may be approved if they meet the objectives of the RNA.

TIMBER MANAGEMENT

MA-4-17 **No programmed harvest shall be scheduled.**

MA-4-18 **Cutting and removal of all vegetation, including firewood, shall be prohibited, except as part of approved scientific investigation.**

MA-4-19 **Felled trees shall remain in place, unless lying across trail or road. Trees shall not be removed.** Hazard tree felling may be permitted along boundary trails or roads for safety.

FIRE MANAGEMENT

MA-4-20 **If fire is used to perpetuate a sere, it should mimic a natural fire, but with prudent measures to avoid catastrophe.** Managed or naturally occurring fire may be used to perpetuate the sere and thus the cell that the RNA is meant to represent.

MA-4-21 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to RNA values.**

MA-4-22 **Chemical fire retardants shall be avoided.**

MA-4-23 **Fuels normally should be allowed to accumulate at natural rates unless they threaten the objectives of the RNA.**

INTEGRATED PEST MANAGEMENT

MA-4-24 **No action shall be taken against insects or diseases unless the outbreak threatens to drastically alter the natural ecological processes within the RNA or is an immediate threat to adjacent lands.**

LANDS

MA-4-25 **Rights-of-way easements, including utility corridors, existing before RNA establishment shall be honored. Upgrading that would compromise the objectives of the RNA should be discouraged.**

MA-4-26 **FERC licenses or permits that compromise the objectives of the RNA shall not be recommended.**

MA-4-27 **All lands shall be retained and private inholdings acquired.**

MINERALS AND ENERGY

MA-4-28 **RNAs shall be recommended for withdrawal from locatable mineral exploration.**

MA-4-29 **RNAs may be recommended for lease issuance with a no surface occupancy stipulation.**

FACILITIES

MA-4-30 **New trail or road construction should not occur, except to enhance RNA values.**

MA-4-31 **Construction of new facilities shall be prohibited.** Existing facilities may be allowed to deteriorate without replacement. Temporary research facilities and installations may be approved under permit.

MANAGEMENT AREA 5a

Emphasis: Special Interest Areas

Management Goals

The goals of this management area are to:

- Preserve lands in Special Interest Areas (SIAs) that contain exceptional scenic, cultural, biological, geological or other unusual characteristics.
- Foster public use and enjoyment in selected special interest areas through facility development.

Desired Future Condition

Special Interest Areas will continue to provide a variety of examples of outstanding or unique physical, cultural or biological features occurring on the Forest. Plant and animal communities inhabiting these unique or special areas will flourish in a mostly undisturbed environment. No programmed timber harvest will occur. Facility development will be initiated in selected areas to accommodate the use, study and enjoyment of important historic and natural aspects of our national heritage. Sites chosen for development and substantial improvements will be directed toward activities of viewing and interpreting the special features of the area. Development activities may include roads, trails, trailheads, sanitation facilities, interpretive signing, or others as appropriate. Barrier-free access will be accommodated where demand and area compatibility make this an option. In areas where the primary emphasis is recreation, management activities will be directed toward resource protection. Access to areas will be provided by trail or roads. Within the boundaries of the area, access by trails will be preferred but roads may be used where compatible with resource objectives. Use of these lands will be restricted to the extent necessary to protect or enhance the unusual features. Each area will have an approved Implementation Guide which will provide direction for specific protection requirements, acceptable development and enhancement, and other uses or activities which are appropriate for the area.

Description

This prescription applies to inventoried Forest lands exhibiting unique ecological and biological communities, cultural features, or geological characteristics. A list of the 31 identified Special Interest Areas including size and classification can be found in the Resource Summary section of this chapter.

Standards And Guidelines

PLANNING

MA-5a-01 **An Implementation Guide shall be prepared for each SIA describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site

development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-5a-02 **Area management practices should result in a physical setting that meets or exceeds the Roaded Natural ROS class.**

Dispersed recreation and ORV use may occur if consistent with the objectives listed in the Implementation Guide.

FOREST TRAIL SYSTEM

MA-5a-03 **Trails should be designed to accommodate the type and numbers of users specified in the Implementation Guide.**

SCENIC RESOURCES

MA-5a-04 **All design and implementation practices should be modified as necessary to meet the VQO of Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Partial Retention.**

TIMBER MANAGEMENT

MA-5a-05 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

MA-5a-06 **Cutting and removal of vegetation shall be prohibited except to provide for the safety of users or to maintain or enhance the values in the area.**

MA-5a-07 **Firewood gathering should be prohibited except for incidental recreational use.**

FIRE MANAGEMENT

MA-5a-08 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Special Interest Area values.**

MA-5a-09 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

Special uses which are consistent with the Implementation Guide may be considered for approval.

MINERALS AND ENERGY

MA-5a-10 **SIAs shall be recommended for withdrawal from mineral location.**

FACILITIES

MA-5a-11 **New road and trail construction should be permitted to meet site-specific objectives identified in the Implementation Guide. Roads that detract from the special values of the area shall not be developed.**

MA-5a-12 **In sites selected for facilities development the physical, cultural, and biological attributes of the management area shall be maintained.** Locations of facilities will consider the use of native plants, locating parking areas and trailheads outside of SIA boundaries, availability of toilets, and interpretive signing needs.

MANAGEMENT AREA 5b

Emphasis: Hardesty - Mt. June Ecological Area

Management Goals

The goals of this management area are to:

- Preserve the diverse genetic base of native plant and animal communities and ensure that biological and physical processes continue unimpeded.
- Protect the area as a benchmark for measuring the effects of management activities conducted in similar landscapes and as a basis for research, education, and monitoring.

Desired Future Condition

The Hardesty - Mt. June Ecological Area will be managed to protect and enhance its exceptional ecological values with an emphasis on the preservation of large undeveloped, intact, ecosystems. The area will also be managed to provide habitat for a wide range of wildlife species, including threatened, endangered and sensitive species. No timber harvest activities will occur, with the exception of actions taken to minimize significant losses which may threaten the unique qualities for which this area was established. The physical setting of this area will be characterized by an environment that may, though not encouraged, provide for semiprimitive nonmotorized recreation experiences. Recreation activities associated with this area will be generally nonmotorized and non-mechanical in nature. Specific activities will be oriented toward non-consumptive use of the land and water resources within the area. Use of this area will be restricted to the extent necessary to protect its outstanding natural features. Access to the area will be provided by trail or nearby roads. Within the boundaries of the area, access may be provided by existing trails and roads. New trail access will be limited to providing for study, research and monitoring of physical and biological processes.

Description

The Hardesty - Mt. June Ecological Area is described in Appendix C of the FEIS.

Standards and Guidelines

ADMINISTRATION

MA-5b-01 **To assure continuity of Plan implementation and compatibility with management area standards and guidelines, proposed or planned activities should be coordinated with the Umpqua National Forest.**

RECREATION MANAGEMENT

MA-5b-02 **This management area shall be made available for maximum use for a range of activities that provide Semiprimitive Nonmotorized ROS class experiences while maintaining the natural conditions of the area.**

MA-5b-03 **Users shall be accommodated with existing facilities. Group sizes should not exceed 12.**

MA-5b-04 **Developed recreation facilities and use shall be discouraged.** However, low impact nature trails may be provided for ecological interpretation.

MA-5b-05 **Dispersed camp areas should be located to take advantage of topographic screening and be placed outside of foreground view (100 feet minimum) from lakes, streams, trails and key features.** Open campfires may be limited to designated sites.

MA-5b-06 **Recreation stock should be held overnight outside the foreground areas of lakes, streams, camp areas, and trailsides.**

MA-5b-07 **Mountain bike use shall be prohibited.**

MA-5b-08 **The general area shall be closed to off-road and off-trail vehicles.**

MA-5b-09 **Area and trail closures or restrictions should be based upon the mandatory and discretionary planning criteria listed in FSM 2355.12.**

MA-5b-10 **The Forest Service shall assist within its capacity and as requested by the County Sheriff in search and rescue and evacuation operations.**

SCENIC RESOURCES

MA-5b-11 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

TIMBER MANAGEMENT

MA-5b-12 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-5b-13 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to the area's ecological values.**

LANDS

MA-5b-14 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-5b-15 **Location of utility corridors shall be avoided in this Management Area.**

MINERALS AND ENERGY

MA-5b-16 **This area shall be recommended for withdrawal from mineral entry.**

FACILITIES

MA-5b-17 **Road development shall not be permitted.**

MA-5b-18 **Existing roads shall be closed to motorized use and access.**

MA-5b-19 **New structures shall be developed only after an assessment of need and potential impact to the area's resources.** Structures and improvements may be provided to facilitate area study, protect resource values, and for administration.

MANAGEMENT AREA 6a

Emphasis: Wild and Scenic Rivers - Wild

Management Goals

The Wild River Management Area will be managed to:

- Preserve its essentially primitive character and outstandingly remarkable values.
- Maintain and improve the quality of water which enters the river.
- Maintain and improve fish and wildlife habitat.
- Provide opportunities for river-oriented recreation which are dependent on free-flowing conditions of the river consistent with the primitive character of its surroundings.
- Comply with all standards for Wild rivers as specified in FSH 1909.12, Chapter 8 (1987) and the Wilderness Preservation Act of 1964.

Desired Future Condition

The character and outstanding recreational value of the Wild segments of the designated rivers within the Forest boundaries will be maintained. Wild river segments will have the following characteristics:

- Free of impoundments and generally inaccessible except by trails.
- Watersheds or shorelines in essentially primitive condition and unpolluted water.
- Segments appear as wild to the user and represent vestiges of primitive America.
- The potential for visitors to experience a high degree of tranquility and solitude with many opportunities to appreciate the natural environment.

This prescription applies to designated WSRs classified as Wild rivers and serves as interim management for Wild segments of mandated Study Rivers and eligible river segments until their suitability has been determined.

Description

At present, only one designated segment of a Willamette National Forest river has been classified as Wild: the North Fork of the Middle Fork of the Willamette River from Waldo Lake to the south boundary of Section 36 T19S R5 1/2E of the Willamette Meridian. This river segment is located entirely within the Waldo Wilderness. Designated boundaries will be determined during development of WSR management plans.

Table IV-37. Designated Wild Rivers

River Name	River Miles	Acres	Est. Date
North Fork of the Middle Fork Willamette River Waldo Lake to south boundary Section 36	8.8	2,820	1988

Standards and Guidelines

WILDERNESS

MA-6a-01 **Management within the Wild river corridor will conform with prescriptions and management area direction in MA 1.**

RECREATION MANAGEMENT

MA-6a-02 **The area shall be made available for maximum use for a range of river-related activities that are consistent with maintaining area conditions and providing Wild river experiences. This management prescription will provide a physical setting for Semiprimitive Nonmotorized recreation.**

MA-6a-03 **Recreation use including, but not limited to, hiking, fishing, hunting, and boating is encouraged in Wild river areas to the extent consistent with the protection of the river environment and Wilderness management standards. Public use and access may be regulated and distributed where necessary to protect and enhance Wild river values.**

MA-6a-04 **River use levels should be managed to maintain the recreation experience quality; establish regulations when the need warrants; and in cooperation with the Oregon State Marine Board, limit size, number, and type of boats.**

MA-6a-05 **Motorized use shall be prohibited in the Wild river area, except for search and rescue and other emergency situations.**

FOREST TRAIL SYSTEM

MA-6a-06 **Trail corridor activities and management practices shall provide at least a physical setting for semiprimitive nonmotorized ROS class opportunities.** (See *Forest-wide Standards and Guidelines for Forest Trail System.*)

SCENIC RESOURCES

MA-6a-07 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation.**

SOIL AND WATER QUALITY

MA-6a-08 **Water quality shall be maintained or improved to meet federal criteria or federally approved state standards.** (See *Forest-wide Standards and Guidelines for Soil and Water Quality*.)

TIMBER MANAGEMENT

MA-6a-09 **No programmed harvest shall be scheduled.**

MA-6a-10 **Cutting of trees shall not be permitted except where needed to promote a primitive recreation experience (such as clearing for trails and for visitor safety) or to protect the environment (such as control of fire). Where feasible, timber outside the corridor boundary, but within the visual corridors should be managed and harvested with special consideration for visual quality.**

MA-6a-11 **Vegetation management shall be to maintain or restore natural appearing timber stands throughout the area.**

FIRE MANAGEMENT

MA-6a-12 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Wild river values.**

MA-6a-13 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

MA-6a-14 **Agricultural use shall be restricted to a limited amount of domestic livestock grazing and hay production to the extent currently practiced. Row crops shall be prohibited.**

MA-6a-15 **All water supply dams and major diversions shall be prohibited.**

MA-6a-16 **No flood control dams, levees, or other works shall be allowed in the channel or river corridor. The natural appearance and essentially primitive character of the river area shall be maintained.**

MA-6a-17 **New transmission lines, gas lines, water lines, etc. should be excluded. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way.**

MA-6a-18 **Existing patterns of land use and ownership shall be maintained provided they remain consistent with the purposes of the Wild and Scenic Rivers Act of 1968.** A full range of land use control measures such as zoning, easements, and fee acquisition will be employed where necessary to protect river values, provide reasonable public access, and maintain the existing river character.

MA-6a-19 **Commercial grazing of livestock shall not be permitted on National Forest land within the area.**

MA-6a-20 **Development of hydroelectric power facilities shall not be allowed.**

MINERALS AND ENERGY

MA-6a-21 **Rights and obligations pertaining to valid existing claims shall be honored, consistent with existing and future regulations. Appropriate steps shall be taken to obtain withdrawal of the area from entry for locatable minerals. Rights and obligations pertaining to valid existing mineral leases (including geothermal) and permits for salable minerals shall be honored; but all appropriate steps shall be taken to seek early termination and to prevent reissuance of such leases and permits in the area. Appropriate steps shall be taken to prevent removal of salable and leasable minerals (including geothermal) from lands in the area not under valid existing permit or lease.**

MA-6a-22 **All mining, leasing, and slable extraction activity on National Forest administered land within the area shall be conducted in a manner that minimizes surface disturbance, water sedimentation, pollution, and visual impairment.**

FACILITIES

MA-6a-23 **No new roads or other provisions for overland motorized travel shall be permitted within a narrow incised river valley or, if the river valley is broad, within 1/4 mile of the riverbank. A few inconspicuous roads leading to the boundary of the river corridor may be permitted.**

MA-6a-24 **Major public use areas, such as campgrounds, interpretive centers, or administrative headquarters shall be located outside Wild river areas.**
Simple comfort and convenience facilities, such as toilets, tables, fireplaces, shelters, and refuse containers may be provided as necessary within the river area. These should harmonize with the surroundings. Unobtrusive trail crossings may be allowed on tributaries, but will not normally cross the river.

MA-6a-25 **New structures should not be allowed except in rare instances to achieve management objectives.** Structures and activities associated with fisheries enhancement programs may be allowed. A few minor existing structures may be allowed assuming such structures are not incompatible with the essentially primitive and natural values of the river corridor.

MANAGEMENT PLANNING

MA-6a-26 **State and other agencies should be involved in Forest river planning activities to assure coordination of management actions with state requirements and consistency with the goals of the Interagency Wild and Scenic Rivers Planning Team.**

MANAGEMENT AREA 6b

Emphasis: Wild and Scenic Rivers - Scenic

Management Goals

The Scenic River Management Area will be managed to:

- Maintain or enhance the condition of the high quality scenery and the largely undeveloped character of the shoreline.
- Maintain and improve the quality of water which enters the river.
- Maintain and improve fish and wildlife habitat.
- Provide opportunities for river-oriented recreation which are consistent with the largely undeveloped nature of the segment and dependent on free-flowing conditions.
- Utilize other resources and permit other activities which maintain or enhance the quality of the wildlife habitat, river fisheries, scenic attractions, or recreation values.
- Comply with all standards for Scenic rivers specified in FSH 1909.12, Chapter 8 (1987).

Desired Future Condition

The character of the Scenic segments of the designated rivers within the boundaries of the Willamette National Forest will be maintained. The river environment will be maintained in a natural state while providing for recreation opportunities. Scenic River Management Areas will consist of rivers or river segments that are free of impoundments, with shorelines and watersheds in still largely primitive condition. Shorelines with Scenic designation will be primarily undeveloped, but accessible in places by roads. Recreation values commensurate with a relatively undeveloped river corridor will be enhanced with visitors generally experiencing solitude, tranquility, and a closeness to nature.

Description

This prescription applies to designated WSR classified as Scenic Rivers and serves as interim management for mandated Study Rivers and eligible river segments until their suitability has been determined.

At present, the only designated segment of a Wild and Scenic River on the Willamette National Forest classified as Scenic is the North Fork of the Middle Fork of the Willamette River from the river's intersection with the south section line of Section 36 T19S R5 1/2E of the Willamette Meridian downstream approximately 6.5 miles to Fisher Creek.

Table IV-38. Scenic River Designation

River Name	River Miles	Corridor Acres	Est. Date
North Fork of the Middle Fork Willamette River South boundary Section 36 to Fisher Creek	6.5	1,850	1988

Standards and Guidelines

RECREATION MANAGEMENT

MA-6b-01 **The area shall be made available for maximum use for a range of trail- and river-related activities that are consistent with maintaining area conditions and providing Scenic river experiences. Except for area size, this management prescription will provide a physical setting for Roaded Natural recreation.**

MA-6b-02 **River use levels should be managed to maintain the recreation experience quality.**

MA-6b-03 **River use levels should be managed to maintain the Scenic experience quality; establish regulations when the need warrants; and in cooperation with the Oregon State Marine Board to limit the size, number and type of boats.**

MA-6b-04 **Open campfires should be limited to designated dispersed camp sites.**

MA-6b-05 **The general area and trails shall be closed to off-road vehicle use, except for administrative purposes.**

FOREST TRAIL SYSTEM

MA-6b-06 **Trail corridor activities and management practices shall provide at least a physical setting for Roaded Natural ROS class opportunities.** (See *Forest-wide Standards and Guidelines for Forest Trail System.*)

SCENIC RESOURCES

MA-6b-07 **All design and implementation practices should be modified as necessary to meet the VQO of Retention.**

SOIL AND WATER QUALITY

MA-6b-08 **Soil compaction should not exceed established limits, except as necessary for the development of camp sites, administrative facilities, trail treads, trailheads, and boat launch sites.** (See *Forest-wide Standards and Guidelines for Soil and Water Quality.*)

TIMBER MANAGEMENT

MA-6b-09 **Scheduled even-aged timber harvest shall not exceed 5% of the suitable and available area within the designated river corridor during the first 10 years following plan implementation.** Some variation is permitted if silvicultural systems such as uneven-aged management or individual tree selection are applied.

MA-6b-10 **Unit sizes of even-aged timber harvest shall not exceed 3 acres in size within the designated Scenic river corridor.**

MA-6b-11 **Stumps should be flush cut.**

MA-6b-12 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload remove, hand pile/burn.

MA-6b-13 **Regeneration stock protective devices and pest management devices that blend with the natural surroundings should be used.**

MA-6b-14 **The appearance of an old-growth forest condition within the river corridor should be maintained, particularly along the river and its immediate environment. Overstory trees maintained in the old-growth seral stage should exhibit diameter, bark texture, color, branching habit, height, and crown characteristics typical of each species type and growing site.**

MA-6b-15 **Harvest openings along roads, trailsides, riverbanks, and around dispersed and developed sites should be limited to an average of 5% of the frontage area of these features during the first 10 years following plan implementation.**

MA-6b-16 **A harvest unit should be considered a created opening until the regenerated stand is 10-15 feet in height. In lodgepole pine stands, a created opening exists until the regenerated stand is 4 1/2 feet in height.**

MA-6b-17 **The maximum area disturbed shall not exceed 10% during the first 10 years following implementation of the Forest Plan.**

MA-6b-18 **Hand treatment methods of vegetation control should be used throughout the area.**

DIVERSITY

MA-6b-19 **All harvest units shall retain at least 10 live green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** This will provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the Management Area.

FIRE MANAGEMENT

MA-6b-20 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Scenic river values.**

MA-6b-21 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

A range of agricultural uses is permitted to the extent currently practiced. Row crops are not considered an intrusion on the "largely primitive" nature of Scenic corridors as long as there is not a substantial adverse effect on the natural appearance of the river area.

MA-6b-22 **All water supply dams and major diversions shall be prohibited.**

MA-6b-23 **All flood control dams and levees shall be prohibited.**

MA-6b-24 **New transmission lines, gas lines, water lines, etc. are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way.**

MA-6b-25 **Existing patterns of land use and ownership shall be maintained provided they remain consistent with the purposes of the Wild and Scenic Rivers Act of 1968.** A full range of land use control measures such as zoning, easements, and fee acquisition will be employed where necessary to protect river values, provide reasonable public access, and maintain the existing river character.

MA-6b-26 **Commercial grazing of livestock shall not be permitted on Forest land within the area.**

MA-6b-27 **Development of hydroelectric power facilities shall not be allowed.**

MINERALS AND ENERGY

MA-6b-28 **Rights and obligations pertaining to valid existing claims shall be honored, consistent with existing and future regulations. Appropriate steps shall be taken to obtain withdrawal of the area from entry for locatable minerals. Rights and obligations pertaining to valid existing mineral leases (including geothermal) and permits for salable minerals shall be honored; but all appropriate steps shall be taken to seek early termination and to prevent reissuance of such leases and permits in the area. Appropriate steps shall be taken to prevent removal of salable and leasable minerals (including geothermal) from lands in the area not under valid existing permit or lease.**

MA-6b-29 **All mining, leasing, and salable extraction activity on National Forest administered land within the area shall be conducted in a manner that minimizes surface disturbance, water sedimentation, pollution, and visual impairment.**

FACILITIES

MA-6b-30 **Forest Service Road 19 should be closed to log haul traffic on weekends from mid-April through September.**

MA-6b-31 **All future roads shall be located and designed to remain visually inconspicuous from the river surface and river banks.** Roads may occasionally bridge the river areas; longer stretches of inconspicuous and well-screened roads or screened railroads may be allowed. Consideration will be given to the type of use for which roads are constructed and the type of use that will occur in the river area.

MA-6b-32 **Structures, improvements, and signs shall be provided to enhance user experiences, facilitate use and administration of the area, and protect resources. Larger scale public use facilities, such as moderately sized campgrounds, public information centers, and administrative headquarters shall be allowed if such structures have been designed to take advantage of topographic and vegetative screening and are out of view from the river. New structures that would have a direct and adverse effect on river values shall not be allowed.** Other structures that may be permitted are single family residences, lodges, and compatible commercial services, provided they do not negatively affect the Scenic character of the river.

MA-6b-33 **Developed campgrounds within the area should be adapted to accommodate boating groups, and water-oriented recreation experiences.**

Boat ramps may be provided at periodic intervals as necessary to accomodate the varied needs of river users. Modest and unobtrusive marinas may be allowed.

MANAGEMENT PLANNING

MA-6b-34 **State and other agencies should be involved in Forest river planning activities to assure coordination of management actions with state requirements and consistency with the goals of the Interagency Wild and Scenic Rivers Planning Team.**

MANAGEMENT AREA 6c

Emphasis: Wild and Scenic Rivers - Recreation

Management Goals

The Recreation River Management Area will be managed to:

- Provide opportunities for a wide range of recreation activities which are oriented to the river and enhanced by its free-flowing condition.
- Maintain and improve the quality of water which enters the river.
- Maintain and improve fish and wildlife habitat.
- Maintain or enhance the quality of the scenery, cultural, and ecological values.
- Utilize other resources and permit other activities to the extent that they do not lower the quality of the wildlife habitat, river fisheries, scenic attractions, or recreation values.
- Comply with all standards for Recreation rivers as specified in FSH 1909.12, Chapter 8 (1987).

Desired Future Condition

The character and outstanding recreational value of the Recreation segments of the designated rivers within the boundaries of the Willamette National Forest will be maintained. The Forest will have a system of Recreation River segments with the following characteristics:

- Readily accessible by public roads, other motorized access.
- Visible public roads parallel to the river with habitations and other developments within close proximity.
- Human activities may have modified the scenery.
- High potential for development of recreation occupancy sites as well as boat launching and mooring sites.

This prescription applies to designated WSR classified as Recreation Rivers and serves as interim management for mandated Study Rivers and eligible river segments until their suitability has been determined.

Description

At present, four designated Wild and Scenic River segments on the Forest have been classified as Recreation rivers. These are the McKenzie River from Clear Lake to Carmen Reservoir, Carmen Dam

to Trailbridge Reservoir, Trailbridge Reservoir to Scott Creek; and the North Fork of the Middle Fork of the Willamette River from Fisher Creek to the Forest boundary.

Table IV-39. Recreation River Designations

River Name	River Miles	Acres	Est. Date
McKenzie River			
Clear Lake to Carmen Reservoir	1.8		1988
Carmen Dam to Trailbridge Reservoir	4.3		1988
Trailbridge Reservoir to Scott Creek	6.6	2,091	1988
North Fork of the Middle Fork Willamette River Fisher Creek to near Westfir, OR	27.0	8,160	1988

Standards and Guidelines

RECREATION MANAGEMENT

MA-6c-01 **The area shall be made available for maximum use for a range of trail- and river-related activities that are consistent with maintaining area conditions and providing Recreation river experiences. This management prescription shall provide an ROS physical setting for roaded natural recreation.**

MA-6c-02 **River use levels should be managed to maintain the Recreation experience quality; establish regulations when the need warrants; and in cooperation with the Oregon State Marine Board to limit the size, number and type of boats.**

MA-6c-03 **Open campfires should be limited to designated dispersed camp sites.**

MA-6c-04 **The general area and trails shall be closed to off-road vehicle use, except for administrative purposes.**

FOREST TRAIL SYSTEM

MA-6c-05 **Trail corridor activities and management practices shall provide at least a physical setting for roaded natural ROS class opportunities.** (See *Forest-wide Standards and Guidelines for Forest Trail System.*)

SCENIC RESOURCES

MA-6c-06 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

SOIL AND WATER QUALITY

MA-6c-07 **Soil compaction should not exceed established limits, except as necessary for the development of camp sites, administrative facilities, trail treads, trailheads,**

and boat launch sites. (See Forest-wide Standards and Guidelines for Soil and Water Quality.)

TIMBER MANAGEMENT

MA-6c-08 **No programmed timber harvest shall be scheduled in the Recreation segments of the McKenzie River.**

MA-6c-09 **Scheduled even-aged timber harvest for the Recreation segment of the North Fork Middle Fork Willamette River shall not exceed 5% during the first 10 years following Plan implementation.**

MA-6c-10 **For all other Recreation segments of designated Study Rivers and eligible rivers, scheduled even-aged timber harvest shall not exceed 7% of the suitable and available area within the river corridor during the first 10 years following plan implementation.** Some variation is permitted if silvicultural systems such as uneven-aged management or individual tree selection are applied.

MA-6c-11 **Even-aged regeneration harvest units shall not exceed 3 acres in size within the Recreation river corridor.** Shape and blend harvest units in a manner that will maintain or enhance the area's scenic quality. Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities and maintenance of understory vegetation in road, trail, and riverside zones, and through transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-6c-12 **Stumps should be flush cut.**

MA-6c-13 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload remove, hand pile/burn.

MA-6c-14 **Regeneration stock protective devices and pest management devices that blend with the natural surroundings should be used.**

MA-6c-15 **The appearance of an old-growth forest condition should be maintained throughout the corridor, particularly along the river and its immediate environment. Overstory trees maintained in the old-growth seral stage should exhibit diameter, bark texture, color, branching habit, height, and crown characteristics typical of each species type and growing site.**

MA-6c-16 **Created harvest openings along roads, trailsides, riverbanks, and around dispersed and developed sites of the Recreation segment of the North Fork Middle Fork Willamette River shall be limited to an average of 5% of the frontage area of these features during the first 10 years following plan implementation, and 7% of the frontage area of all other designated Study and eligible rivers.**

MA-6c-17 **A harvest unit shall be considered a created opening until the regenerated stand is 10-15 feet in height.** The height selected will consider tree species, unit shape and size, topography, and the location of the user in relation to the created opening.

MA-6c-18 **The maximum area disturbed shall not exceed 14% for Study and eligible rivers and 10% for North Fork Middle Fork Willamette River during the first 10 years following implementation of the Forest Plan.**

MA-6c-19 **Hand treatment methods of vegetation control should be used throughout the area.**

DIVERSITY

MA-6c-20 **All harvest units shall retain at least 10 live green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** This will provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the management area.

FIRE MANAGEMENT

MA-6c-21 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Recreation river values.**

MA-6c-22 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

Lands may be managed for a full range of agricultural uses, to the extent currently practiced.

MA-6c-23 **New structures shall be prohibited.** Existing low dams, diversion works, riprap, and other minor structures are allowed, provided the waterway remains generally natural in appearance.

MA-6c-24 **New transmission lines, gas lines, water lines, etc. should be discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way.**

MA-6c-25 **Existing patterns of land use and ownership shall be maintained, provided they remain consistent with the purposes of the Wild and Scenic Rivers Act of 1968.** A full range of land use control measures such as zoning, easements, and fee acquisition will be employed where necessary to protect river values, provide reasonable public access, and maintain the existing river character.

MA-6c-26 **Commercial grazing of livestock shall not be permitted on National Forest land within the area.**

MA-6c-27 **Development of hydroelectric power facilities shall not be allowed.**

MA-6c-28 **New flood control structures shall be prohibited.** Existing flood control works may be maintained.

MINERALS AND ENERGY

MA-6c-29 **Rights and obligations pertaining to valid existing claims shall be honored, consistent with existing and future regulations. Appropriate steps shall be taken to obtain withdrawal of the area from entry for locatable minerals. Rights and obligations pertaining to valid existing mineral leases (including geothermal) and permits for salable minerals shall be honored; but all appropriate steps shall be taken to seek early termination and to prevent reissuance of such leases and permits in the area. Appropriate steps shall be taken to prevent removal of salable and leasable minerals (including geothermal) from lands in the area not under valid existing permit or lease.**

MA-6c-30 **All mining, leasing, and salable extraction activity on National Forest administered land within the area shall be conducted in a manner that minimizes surface disturbance, water sedimentation, pollution, and visual impairment.**

FACILITIES

MA-6c-31 **Future roads shall be located and designed to remain visually inconspicuous from the river surface and river banks.**

MA-6c-32 **Structures, improvements, and signs shall be provided to enhance user experiences, facilitate use and administration of the area, and protect resources. Larger scale public use facilities, such as moderately sized campgrounds, public information centers, and administrative headquarters shall be allowed if such structures have been designed to take advantage of topographic and vegetative screening, and are out of view from the river. New structures that would have a direct and adverse effect on river values shall not be allowed.** Other structures that may be permitted are single family residences, lodges, and compatible commercial services, provided they do not negatively affect the Recreation character of the river.

MA-6c-33 **Dimensional and non-native materials may be utilized, but their appearance should be subtle to area users.**

MA-6c-34 **Developed campgrounds within the area should be adapted to accommodate boating groups, and water-oriented recreation experiences.**

Boat ramps may be provided at periodic intervals as necessary to accommodate the varied needs of river users. Modest and unobtrusive marinas may be allowed.

MANAGEMENT PLANNING

MA-6c-35 **State and other agencies should be involved in Forest river planning activities to assure coordination of management actions with state requirements and consistency with the goals of the Interagency Wild and Scenic Rivers Planning Team.**

MANAGEMENT AREA 7

Emphasis: Old-Growth Groves

Management Goals

The goals of this management area are to:

- Preserve representative ecosystems of old-growth forests of the Western Cascades.
- Provide opportunities for the public to enjoy the educational, aesthetic and spiritual values associated with the old-growth timber successional stage.

Desired Future Condition

The desired future condition is a network of outstanding, highly accessible examples of old-growth timber types of the Western Cascades. These groves will preserve the genetic base of native plant and animal communities and add to the structural diversity of the forest landscape. Use of these lands will be restricted to the extent necessary to protect the exceptional ecological values for which they are designated. The physical setting of these groves will provide for semiprimitive nonmotorized recreation experiences. No timber harvest will occur except to remove safety hazards. Access to the area will be provided by roads and trails. Facilities will be concentrated outside of grove boundaries.

Description

This management area consists of representative stands of old growth that are characterized by individual, large, old trees; multi-layered canopies with trees of several age classes and sizes; standing snags and fallen trees in various stages of decomposition, and smaller plants and ground cover.

Note: Old growth stands are protected and preserved in other management areas also such as MA1-Wilderness, MA4-Research Natural Areas, MA5-Special Interest Areas, MA9-Wildlife Habitats, and MA10-Dispersed, Nonmotorized Recreation Areas. This prescription applies to areas designated as Old-growth Timber Groves with the specific management goals stated above.

Standards and Guidelines

PLANNING

MA-7-01 **An Implementation Guide shall be prepared for each designated Old-Growth Grove, describing site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-7-02 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-7-03 **ORV use shall not be permitted within management area boundaries.**

MA-7-04 **Overnight camping at parking areas shall be discouraged.**

FOREST TRAIL SYSTEM

MA-7-05 **Trail construction, reconstruction and maintenance shall be at a level commensurate with predicted or experienced use.**

MA-7-06 **Trails should be designed to accommodate the type and numbers of users specified in the site development plan.**

SCENIC RESOURCES

MA-7-07 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

TIMBER MANAGEMENT

MA-7-08 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-7-09 **Cutting and removal of all vegetation, including firewood, shall be prohibited, except to provide for the safety of users.**

FIRE MANAGEMENT

MA-7-10 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to old-growth grove values.**

LANDS

MA-7-11 **Requests for special use permits shall be denied.**

MINERALS AND ENERGY

MA-7-12 **The area shall be recommended for withdrawal from entry for locatable minerals.**

MA-7-13 **Removal of salable and leasable minerals shall not be permitted.**

FACILITIES

MA-7-14 **Road development should be consistent with objectives for the grove as stated in the Implementation Guide.** An existing road may serve as trail access when road management objectives require closure. New road development is generally discouraged.

MA-7-15 **Facilities shall be developed commensurate with management objectives established in the Implementation Guide.** Locations of facilities will consider the use of native plants, locating parking areas and trailheads outside of groves, availability of toilets, and interpretive signing needs.

MANAGEMENT AREA 8

Emphasis: Threatened and Endangered Species - Bald Eagle

Management Goals

The goal of this management area is to provide habitat and habitat conditions to meet recovery objectives for the Northern Bald Eagle as stated in the Pacific Bald Eagle Recovery Plan (USDI Fish and Wildlife Service 1986). Site specific management of active territories shall be detailed in Bald Eagle Management Plans.

Desired Future Condition

Bald Eagle Management Areas (BEMAs) will have a natural, undisturbed appearance surrounding nest sites. All allocated bald eagle territories are occupied by reproductive pairs of bald eagles. Management activities have been implemented that enhance habitat suitability. The protection of perch trees and down woody material have added to the structural diversity of the forest stands as physical and biological processes continue in areas removed from timber harvest without undue human intervention. High isolation from the sights and sounds of human activities provides the protection necessary to achieve optimum characteristics for survival and reproduction of Bald Eagles. Protection of active nest sites and enhancement or maintenance of existing habitat conditions within and adjacent to major water bodies results in population increases and the eventual declassification of the species.

Description

Management Area 8 consists of 6 active nest sites and 15 potential nest sites located within 1.1 miles of 11 major water bodies. Existing bald eagle nesting, roosting, and foraging areas will have site specific management plans revised or written to comply with the Working Implementation Plan for Bald Eagle Recovery in Washington and Oregon and the Region 6 Bald Eagle Habitat Guide.

Currently, 1,152 acres within 1 mile of Hills Creek and Lookout Point Reservoir have been allocated for protection of existing nest sites. Newly discovered nest sites will require biological evaluation and consultation as directed by PL 93-205, Endangered Species Act.

Standards and Guidelines

RECREATION MANAGEMENT

MA-8-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-8-02 **Developed recreation sites shall be located outside primary nest zones of bald eagle management areas. Planned developed recreation sites should be located away from any primary feeding/roosting area.**

MA-8-03 Off-road vehicle use shall be prohibited.

FOREST TRAIL SYSTEM

MA-8-04 Trails within 660 feet of nest trees should be relocated to at least one quarter mile from nest trees. Bald eagles are highly susceptible to disturbance in area immediately adjacent to the nest tree.

MA-8-05 Existing trails which are within 660 feet of nest trees and are not relocated shall be closed to use from January 1 through August 31.

MA-8-06 New trails shall be located at least one quarter mile from nest sites. New trails may be developed commensurate with management objectives established in individual Bald Eagle Management Plans.

SCENIC RESOURCES

MA-8-07 All design and implementation practices should be modified as necessary to meet the VQO of Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Partial Retention.

PROPOSED, ENDANGERED, THREATENED AND SENSITIVE SPECIES

MA-8-08 Existing Bald Eagle Management Plans shall be revised to incorporate latest direction on habitat requirements. Nest sites shall be protected by primary zones of not less than 125 acres. Primary zone acreages may be larger depending on local physiographic conditions, potential for blowdown, potential disturbance due to roads, logging, or recreation developments, and topographic features.

MA-8-09 The territory shall be identified for nest sites discovered during the planning period. These additional sites shall be incorporated into MA 8 as site specific Bald Eagle Management Plans are prepared and approved.

MA-8-10 Bald Eagle Management Plans shall be revised or prepared within three years of implementation of the Forest Plan. These site specific plans should include long term strategies for maintaining or enhancing the nesting, roosting, perching, and foraging habitat within the territory for bald eagles. Monitoring will be conducted to identify territories being used by bald eagles including alternate nest trees, roost areas, potential disturbance zones, and perch trees used while hunting.

MA-8-11 Perch trees used by hunting, feeding, or roosting bald eagles shall be protected. Generally, these trees will occur within 600 feet of lake and reservoir shorelines. Perch trees should be protected by allocating a 200-600 foot no-harvest buffer along the shorelines used as the primary feeding zone.

MA-8-12 Habitat enhancement activities shall not occur within one quarter mile of any nest site between January 1 and August 31. Proposed enhancement activities shall be detailed in the Management Plan and shall be coordinated with the appropriate agencies. Habitat within and around BEMAs may be enhanced through silvicultural manipulation.

TIMBER MANAGEMENT

MA-8-13 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-8-14 **Potential timber harvest activities shall be evaluated as a part of the Bald Eagle Management Plan. The Bald Eagle Management Plan should determine whether extended rotation (200 years or greater) or no-harvest strategies best meets the long term viability needs for Bald Eagle Recovery objectives.**

MA-8-15 **Silvicultural treatments such as timber stand improvement, fertilization, vegetation management, pest management, and tree planting shall not occur within one quarter mile of nest sites between January 1 and August 31.** These activities should be carried out within BEMAs only when planned as habitat enhancement activities.

MA-8-16 **Hazard trees which are felled should be left as down woody material on the forest floor.**

MA-8-17 **Firewood cutting shall not be permitted within BEMAs.**

MA-8-18 **No trees selected for cone collection shall be within 600 feet of nest trees.**

FIRE MANAGEMENT

MA-8-19 **Suppression strategies, practices and activities shall be limited to those which have minimal impacts to bald eagle habitat values.**

MA-8-20 **Restrict air operations over BEMAs between January 1 and August 31 unless the primary nest habitats are threatened by fire.**

MA-8-21 **Fuels treatment shall not occur within a BEMA from January 1 through August 31.**

LANDS

MA-8-22 **No special use permits should be approved.**

MINERALS AND ENERGY

MA-8-23 **The area shall be recommended for withdrawal from entry for locatable minerals.**

MA-8-24 **Removal of salable and leasable minerals shall not be permitted.**

FACILITIES

MA-8-25 **Roads within bald eagle management areas shall be closed between January 1 and August 31. Exceptions to this standard, if needed, shall be detailed in the**

Bald Eagle Management Plan for that particular site. Bald eagles are highly susceptible to disturbance within this time period.

MA-8-26 **Road construction within a BEMA shall be permitted only to support bald eagle habitat enhancement activities.**

MA-8-27 **Road maintenance within BEMAs shall not occur between January 1 and August 31.**

MA-8-28 **Facility development shall be excluded within BEMAs.**

MANAGEMENT AREA 9a

Emphasis: Northern Spotted Owl Habitat Area

Management Goals

The goals of this management area are to:

- Protect mature and old-growth habitat for all dependent flora and fauna by providing habitat networks for the northern spotted owl, an ecological indicator species.
- Provide designated no-harvest sites which will ensure continued interaction of northern spotted owl individuals and populations within the Forest as well as between adjacent Forests and landownerships.

Desired Future Condition

The desired future condition is a well-distributed network of high quality habitat throughout the forest landscape. Although individual mature and old-growth stands may last many decades, forest conditions are not static; individual areas will not remain as suitable habitat forever. Future plans will likely examine opportunities to enhance habitat in these areas, manage them in an uneven-aged condition, or substitute areas and gradually rotate the designated areas.

Description

This prescription protects habitat networks for species used as ecological indicators for mature/old-growth habitat. Habitat areas have been delineated whenever distribution of suitable habitat exceeds dispersal requirements.

Standards and Guidelines

RECREATION MANAGEMENT

MA-9a-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-9a-02 **Biological evaluations shall be prepared assessing the compatibility of developed sites within SOHAs on a case-by-case basis.**

MA-9a-03 **Developed sites may be compatible with SOHAs but the developed area (campground, picnic site, parking lot, etc.) shall not count toward allocated SOHA acres.**

MA-9a-04 **Motorized recreation activities shall be discouraged within SOHAs.** Many SOHAs have highways or collector roads passing through them. Recreation activities associated

MA-9a-25 **If new roads are constructed in SOHAs, additional acres shall be delineated as replacement acres for the affected area.** The intent is to maintain an equivalent acreage of interior forest habitat.

RANGE MANAGEMENT

MA-9a-26 **Domestic livestock grazing shall not be permitted.**

MANAGEMENT AREA 9b

Emphasis: Pileated Woodpecker Habitat Area

Management Goals

The goals of this management area are to:

- Protect mature and old-growth habitat for all dependent flora and fauna by providing habitat networks for the pileated woodpecker, an ecological indicator species.
- Provide a combination of managed sites and designated no-harvest sites which will ensure continued interaction of pileated woodpecker individuals and populations within the Forest as well as between adjacent Forests and landownerships.

Desired Future Condition

The desired future condition is a well-distributed network of high quality habitat throughout the forest landscape. Although individual mature and old-growth stands may last many decades, forest conditions are not static; individual areas will not remain as suitable habitat forever. Future plans will likely examine opportunities to enhance habitat in these areas, manage them in an uneven-aged condition, or substitute areas and gradually rotate the designated areas.

Description

This prescription protects habitat networks for species used as ecological indicators for mature/old-growth habitat. In particular, 300 acre core areas have been set aside that meet the criteria for high quality pileated woodpecker habitat. Additional high quality habitat is identified with each core area. Habitat areas have been delineated wherever distribution of suitable habitat exceeds dispersal requirements.

Note: Management Areas 11d, 11e,and 11f are managed on extended rotations (150-200 years) and will provide additional habitat for those wildlife species inhabiting mature and old-growth forest. Where sites designated as part of the management requirement network of pileated woodpecker habitat areas (PWHA) overlap with these MAs, they will be managed to provide the habitat requirements for mature/old-growth dependent species.

Standards and Guidelines

RECREATION MANAGEMENT

MA-9b-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-9b-02 **Biological Evaluations should be used to assess the compatibility of developed sites within PWHAs on a case-by-case basis.**

MA-9b-03 **Developed sites may be compatible with PWHAs but the developed area (i.e., campground, picnic site, parking lot) shall not count toward allocated PWHA acres.**

MA-9b-04 **Motorized recreation activities shall be discouraged within PWHAs.**

MA-9b-05 **The general area shall be closed to off-road vehicle use.**

FOREST TRAIL SYSTEM

MA-9b-06 **New trails shall be located so as to minimize disturbance to known spotted owl nest trees or natal areas.** Existing trails are compatible within PWHAs. Many PWHAs contain spotted owl nest sites or natal areas. Where this occurs, protection of the natal area needs to be given high priority.

SCENIC RESOURCES

MA-9b-07 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

WILDLIFE MANAGEMENT

MA-9b-08 **Fish and wildlife habitats shall be managed to maintain viable populations of existing native and desirable nonnative vertebrate species in the planning area (36 CFR 219.19).**

MA-9b-09 **PWHAs shall occur at least once every 12,000 to 13,000 acres, and should not be located more than 5 miles apart measured edge to edge.**

MA-9b-10 **Each PWHA shall be linked with at least three other habitat areas or areas providing adequate quantity and quality of habitat in no-harvest allocations within 5 miles.**

MA-9b-11 **PWHAs shall have a minimum of 300 acres of mature and old-growth coniferous forest and contain numerous snags (>25" DBH and >60' tall) to provide high quality nesting habitat. At least 160 acres of each core nesting area shall be contiguous.**

MA-9b-12 **In addition, the 300 acre core areas shall be adjacent to coniferous stands having greater than 70% canopy closure, and numerous snags >14" DBH and >60' tall, to provide high quality foraging habitat. The total area of nesting and foraging habitat should exceed 600 acres within a 1 mile radius.**

MA-9b-13 **Noncontiguous stands of nesting habitat should be larger than 60 acres. Isolated nesting habitat should maintain connectivity within the PWHA by using forage habitat.** Stands meeting nesting requirements may be substituted for forage habitat if adequate acres of mid-seral stages are unavailable. Shelterwoods may be used as forage habitat and retained as future replacement nesting habitat.

TIMBER MANAGEMENT

MA-9b-14 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

MA-9b-15 **Timber harvest within managed PWHAs in MA 11 should be scheduled to maintain at least 300 contiguous acres of suitable nesting habitat.** Woodpecker habitat within MA 11d, 11e, and 11f, is managed for timber harvest on 150-200 year rotations.

MA-9b-16 **Within managed PWHAs, documented nesting use by pileated woodpeckers should occur in the replacement stands before the core areas are scheduled for harvest.**

MA-9b-17 **Where individual trees have been determined through site specific analysis to be a hazard, they may be felled.** Generally this will occur only along arterial roads, within developed recreation sites, or near roads with trailhead access.

MA-9b-18 **Windthrow and felled hazard trees should be left as coarse woody material on the forest floor.** This material contributes significant habitat for many species represented by this ecological indicator.

FIRE MANAGEMENT

MA-9b-19 **Suppression strategies, practices and activities shall be limited to those which have minimal effects to PWHA values.**

MA-9b-20 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

MA-9b-21 **No special use permits should be approved within this management area.**

MINERALS AND ENERGY

MA-9b-22 **Lands within this management area shall be recommended for withdrawal from geothermal and mineral entry.**

FACILITIES: TRANSPORTATION

MA-9b-23 **Roads not needed to meet resource management objectives of adjacent lands shall be closed.**

MA-9b-24 **New road construction should not occur within PWHAs.** However, construction through a PWHA may be evaluated for site-specific projects where other resource objectives are being met.

MA-9b-25 **If new roads are constructed in PWHAs, additional acres shall be delineated as replacement acres for the affected area.**

MANAGEMENT AREA 9c

Emphasis: Marten Habitat Area

Management Goals

The goals of this management area are to:

- Protect mature and old-growth habitat for all dependent flora and fauna by providing habitat networks for the marten, an ecological indicator species.
- Provide a combination of managed sites and designated no-harvest sites which will ensure continued interaction of marten individuals and populations within the Forest as well as between adjacent Forests and landownerships.

Desired Future Condition

The desired future condition is a well-distributed network of high quality habitat throughout the forest landscape. Although individual mature and old-growth stands may last many decades, forest conditions are not static; individual areas will not remain as suitable habitat forever. Future plans will likely examine opportunities to enhance habitat in these areas, manage them in an uneven-aged condition, or substitute areas and gradually rotate the designated areas.

DESCRIPTION

This management area prescription protects and manages a habitat network for species used as ecological indicators for mature/old-growth habitat. In particular, 160 acre core areas have been set aside that meet the criteria for high quality marten habitat. Additional high quality habitat is identified with each core area. Habitat areas have been delineated wherever distribution of suitable habitat exceeds dispersal requirements.

Note: Management Areas 11d, 11e, and 11f are managed on extended rotations (150-200 years) and will provide additional habitat for those wildlife species inhabiting mature and old-growth forest. Where sites designated as part of the management requirement network of marten habitat areas (MHA) overlap with these management areas, they will be managed to meet the habitat requirements for mature/old-growth dependent species.

Standards and Guidelines

RECREATION MANAGEMENT

MA-9c-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-9c-02 **Biological Evaluations should be used to assess the compatibility of developed sites within MHAs on a case-by-case basis where habitat areas are occupied by spotted owls or other species listed on the R-6 Sensitive Species List.**

MA-9c-03 **Developed sites may be compatible with MHAs but the developed area (e.g., campground, picnic site, parking lot) shall not count toward allocated MHA acres.**

MA-9c-04 **Motorized recreation activities shall be discouraged within MHAs.**

MA-9c-05 **The general area shall be closed to off-road vehicle use.**

FOREST TRAIL SYSTEM

MA-9c-06 **New trails shall be located so as to minimize disturbance to known spotted owl nest trees or natal areas.** Existing trails are compatible within MHAs. Many MHAs contain spotted owl nest sites and natal areas. Protection and security of these areas needs to be given high priority.

SCENIC RESOURCES

MA-9c-07 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

WILDLIFE MANAGEMENT

MA-9c-08 **Fish and wildlife habitats shall be managed to maintain viable populations of existing native and desirable non-native vertebrate species in the planning area (36 CFR 219.19).**

MA-9c-09 **MHAs shall be maintained in a Forest-wide network. One MHA shall be located per 3,000 to 5,000 acre area.**

MA-9c-10 **A maximum distance of 3 miles shall separate MHAs or other no harvest areas that meet the marten habitat criteria for size.**

MA-9c-11 **Each MHA shall also be linked with at least three other areas of equivalent size or larger, all of which contain mature or old growth coniferous forest habitat.**

MA-9c-12 **The habitat width for MHAs shall exceed 400 yards.** Blocks of habitat are preferred over strips. Exceptions may be used if no other suitable habitat exists in larger patch sizes.

MA-9c-13 **Corridors connecting individual MHAs should be maintained. These corridors should be comprised of habitat suitable for travel and foraging, but may include mature and old-growth forests allocated for riparian, visuals, or other resource objectives.**

MA-9c-14 **MHAs shall have a minimum of 160 contiguous acres of mature and old-growth coniferous forest to provide high quality denning habitat.**

MA-9c-15 **In addition, the 160 acre core areas shall be adjacent to coniferous stands having greater than 50% crown closure, numerous large logs, and snags to provide high quality foraging and dispersal habitat. The total area identified as denning, foraging and dispersal habitat should exceed 500 contiguous acres within a 1 mile radius home range.**

TIMBER MANAGEMENT

MA-9c-16 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-9c-17 **Timber harvests within the managed MHAs in MA 11 should be scheduled to maintain at least 160 contiguous acres of mature trees.** Some marten habitat within MA 11d, 11e, and 11f is managed for timber harvest on 150-200 year rotations.

MA-9c-18 **Where individual trees have been determined to be a hazard, by a site specific analysis, they may be felled.**

MA-9c-19 **Windthrow and felled hazard trees should be left as coarse woody material on the forest floor.** This material contributes significant habitat for the spotted owl and marten prey base, and martens use down logs extensively for dens and travel.

FIRE MANAGEMENT

MA-9c-20 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on MHA values.**

MA-9c-21 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

MA-9c-22 **No special use permits should be approved.**

MINERALS AND ENERGY

MA-9c-23 **Lands within this management area shall be recommended for withdrawal from mineral entry.**

FACILITIES: TRANSPORTATION

MA-9c-24 **Roads not needed to meet resource management objectives of adjacent lands shall be closed.**

MA-9c-25 **New road construction should not occur within MHAs.** However, construction through a MHA may be evaluated for site-specific projects where other resource objectives are being met.

MA-9c-26 **If new roads are constructed in MHAs, additional acres shall be delineated as replacement acres for the affected area.**

RANGE MANAGEMENT

MA-9c-27 **Domestic livestock grazing shall not be permitted.**

MANAGEMENT AREA 9d

Emphasis: Special Habitat Areas

Management Goal

The goal of this management area is to protect or enhance unique wildlife habitats and botanical sites which are important components of healthy, biologically diverse ecosystems.

Desired Future Condition

The desired future condition is a well-distributed network of high quality habitat throughout the forest landscape. Special wildlife or botanical areas will continue to provide unique characteristics and diversity to the forest landscape. Natural physical and biological processes will prevail without human intervention. Plant and animal life inhabiting these unique systems will continue to flourish. Little human-caused degradation is expected to occur over the next several decades.

Description

Management Area 9d includes special or unique habitats for wildlife and botanical resources such as dry meadows, cliffs, caves, talus, mineral springs, mineral licks, wet meadows, marshes, and bogs. Riparian management area prescriptions (MA 15) will apply to special wildlife habitats and botanical areas that overlap with riparian areas.

Standards and Guidelines

RECREATION MANAGEMENT

MA-9d-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-9d-02 **Existing developed and dispersed sites should be compatible with the overall objectives for the area.** Recreation use may be regulated where it degrades sensitive plant communities or limits the use of the area by wildlife.

MA-9d-03 **Future developed and dispersed sites shall be designed to minimize effects to the area and to minimize disturbance to wildlife and botanical resources.**

FOREST TRAIL SYSTEM

MA-9d-04 **Trails shall be designed, constructed, and maintained in a manner that is compatible with habitat objectives and wildlife use of the area.**

SCENIC RESOURCES

MA-9d-05 **All design and implementation practices should be modified as necessary to meet the VQO of Retention.**

WILDLIFE MANAGEMENT

MA-9d-06 **Habitat inventories shall be conducted to establish habitat conditions or area boundaries.**

MA-9d-07 **Habitats of native wildlife and plants shall be maintained. Boundaries should be selected that are self-buffering.** Generally, buffers greater than three tree lengths in width will provide adequate protection.

TIMBER MANAGEMENT

MA-9d-08 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-9d-09 **Vegetative treatments, including commercial harvests, should be permitted if necessary to meet established wildlife objectives.** Sustained timber production is not a management area objective.

MA-9d-10 **Previously disturbed sites should be managed to meet special wildlife and plant habitat objectives.**

FIRE MANAGEMENT

MA-9d-11 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on special habitat values.**

MA-9d-12 **Fires should be suppressed at the lowest acreage practicable.**

MA-9d-13 **Any fuels treatment shall protect wildlife and unique plant species and habitats.**

LANDS

MA-9d-14 **Special use permits should be granted only if use is compatible with protection and enhancement objectives.**

MINERALS AND ENERGY

MA-9d-15 **Area shall be recommended for withdrawal from mineral entry.**

FACILITIES: TRANSPORTATION

MA-9d-16 **Road construction should not occur within the boundaries of the area. Existing roads may not be compatible with the area objectives and should be evaluated for access management needs.**

MA-9d-17 **Road closures and access management should be used where necessary to prevent disturbance to wildlife and plants and their habitats.**

RANGE MANAGEMENT

MA-9d-18 **Grazing by domestic livestock should be permitted only to enhance habitat values.**

MANAGEMENT AREA 10a

Emphasis: Dispersed Recreation
Roaded Natural Use with Timber Harvest

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a roaded natural experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a high degree of interaction with the natural environment using both motorized and nonmotorized forms of recreation, where the challenge and risk opportunities associated with more primitive types of recreation are not important.
- Provide for wood fiber production, watershed protection, scenic quality, and maintenance of wildlife habitats.

Desired Future Condition

The desired condition is an area which provides a wide range of recreation opportunities where visitors have about equal probability of experiencing affiliation with other user groups as isolation from the sights and sounds of humans. The setting of this management area is characterized by natural appearing environments where resource modification and utilization are evident, but their form, line and contrast harmonize with the natural environment. Activities associated with this area are both motorized and nonmotorized in nature. Specific activities are centered around consumptive and nonconsumptive use of land and water areas including hiking, fishing, hunting, horseback riding, ORV use, canoeing, nature study, camping, boating, mountain biking and snowmobiling. Timber harvest in this management area will occur at a rate of 10% of the suitable and available acres during the first ten years following Forest Plan implementation. Access to and within the area will be provided by trails and roads. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape.

Description

This prescription applies to areas identified as providing roaded natural recreation experiences with timber harvest.

Standards and Guidelines

PLANNING

MA-10a-01 **An Implementation Guide shall be prepared for each dispersed recreation area, describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-10a-02 **This management area shall be available for maximum use for a range of activities that provide Roaded Natural ROS class experiences.**

MA-10a-03 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-10a-04 **Access by motorized vehicles shall be limited to snowmobiles, trail bikes, and ORVs not greater than 42 inches in width.** The general area is open to off-road vehicles and mountain bikes.

FOREST TRAIL SYSTEM

New trails may be developed commensurate with management objectives established in the Implementation Guide.

SCENIC RESOURCES

MA-10a-05 **Area management practices should result in a condition that ranges between the Partial Retention and Modification VQO. Physical changes and improvements in the area should meet the Partial Retention VQO. The rate at which changes occur within the area should at least meet the Modification VQO.**

TIMBER MANAGEMENT

MA-10a-06 **Scheduled even-aged timber harvest should not exceed 10% of the suitable and available acres during the first 10 years following Forest Plan implementation.** Some variation in harvest rate is permitted in consideration of uneven-aged silvicultural systems, differences in rotation length due to site conditions or species-dependent growth rates, and operational feasibility of harvest treatments.

MA-10a-07 **Maximum size for even-aged regeneration harvest units should be 10 acres. Roadside frontage zones in the major travel corridors should have a maximum unit size of 3 acres.** The preferred unit sizes are 5-8 acres in the general area and 2-3 acres in the roadside frontage zone.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities

and maintenance of understory vegetation in road frontage zones and transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-10a-08 **Created openings along travel corridors should not exceed 300 lineal feet/mile per side of the road within the management area.**

MA-10a-09 **Stumps should be flush cut.**

MA-10a-10 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload/remove, hand pile/burn.

MA-10a-11 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-10a-12 **Vegetation control in roadside frontage zones should employ hand treatment methods.**

MA-10a-13 **Seven percent of the acres available and suited for harvest in the management area should be maintained in a mature or older size/age class condition at all times.**

MA-10a-14 **A harvest unit should be considered a created opening until the regenerated stand is 10 to 15 feet in height. In lodgepole pine stands, a created opening exists until the regenerated stand is 4 1/2 feet in height.**

MA-10a-15 **The maximum area in created openings should not exceed 20% of the acres available and suited for timber harvest in this management area.** This will balance out any previous harvest which exceeds the specified harvest rate/decade.

FIRE MANAGEMENT

MA-10a-16 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Roaded Natural recreation values.**

LANDS

MA-10a-17 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-10a-18 **Utility corridors shall not be located in this management area.**

MINERALS AND ENERGY

MA-10a-19 **Exploration and development access requirements, as well as operating plans, should include measures to protect or enhance effectiveness of the area to provide for roaded natural experience.**

MA-10a-20 **Salable mineral spoils shall be excluded from this management area.**

Leases for oil, gas, or other leasable minerals may be granted following approval of the appropriate NEPA document.

FACILITIES

MA-10a-21 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used but should remain subtle to area users.

MA-10a-22 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.** (See *Forest-wide Standards and Guidelines for Soil, Water, and Air Quality*)

MANAGEMENT AREA 10b

Emphasis: Dispersed Recreation
Semiprimitive Motorized Use with Timber Harvest

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Motorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for wood fiber production, watershed protection, scenic quality, and maintenance of wildlife habitats.

Desired Future Condition

The desired condition is an area which provides for a wide range of recreation opportunities where visitors can experience a moderate degree of isolation from the sights and sounds of human activity. The setting of this management area will be characterized by an environment where the natural landscape may have been subtly modified but where alterations will not draw the attention of most users. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are both motorized and nonmotorized in nature. Specific activities are centered around consumptive and non-consumptive use of land and water areas including hiking, fishing, hunting, horseback riding, mountain biking, ORV use, canoeing, nature study, camping, and snowmobiling. Timber harvest in this management area will occur at a rate of 7% of the suitable and available acres during the first 10 years following Forest Plan implementation. Access to and within the area will be provided by trails and roads. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions.

Description

This prescription applies to areas identified as providing Semiprimitive Motorized recreation opportunities with timber harvest.

Standards and Guidelines

PLANNING

MA-10b-01 **An Implementation Guide shall be prepared for each Semiprimitive Motorized area describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-10b-02 **This management area shall be available for maximum use for a range of activities that provide Semiprimitive Motorized experiences.**

MA-10b-03 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-10b-04 **Access by motorized vehicles shall be limited to snowmobiles, trail bikes, and ORVs not greater than 42 inches in width.** The general area is open to off-road vehicles and mountain bikes.

SCENIC RESOURCES

MA-10b-05 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

TIMBER MANAGEMENT

MA-10b-06 **Scheduled even-aged timber harvest should not exceed 7% of the suitable and available acres during the first 10 years following Forest Plan implementation.** Some variation in harvest rate is permitted in consideration of uneven-aged silvicultural systems, differences in rotation length due to site conditions or species-dependent growth rates, and operational feasibility of harvest treatments.

MA-10b-07 **Maximum size for even-aged regeneration harvest units should be 8 acres. Roadside frontage zones in the major travel corridors should have a maximum unit size of 3 acres.** The preferred unit sizes are 5-8 acres in the general area and 2-3 acres in the roadside frontage zone.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities and maintenance of understory vegetation in road frontage zones and transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-10b-08 **Created openings in major travel corridors should not exceed 300 lineal feet/mile per side of the road within the management area.**

MA-10b-09 **Stumps should be flush cut.**

MA-10b-10 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload/remove, hand pile/burn.

MA-10b-11 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-10b-12 **Vegetation control in roadside frontage zones should employ hand treatment methods.**

MA-10b-13 **Seven percent of the acres available and suited for harvest in the management area should be maintained in a mature or older size/age class condition at all times.**

MA-10b-14 **A harvest unit should be considered a created opening until the regenerated stand is 10 to 15 feet in height. In lodgepole pine stands, a created opening exists until the regenerated stand is 4 1/2 feet in height.**

MA-10b-15 **The maximum area in created openings should not exceed 14% of the acres available and suited for timber harvest in this management area.** This will balance out any previous harvest which exceeds the specified harvest rate/decade.

DIVERSITY

MA-10b-16 **All harvest units should retain at least 10 live, green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** The objective will be to provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the Management Area.

FIRE MANAGEMENT

MA-10b-17 **Suppression strategies, practices and activities shall be limited to those which have minimal effects to Semiprimitive Motorized values.**

LANDS

MA-10b-18 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-10b-19 **Location of utility corridors should be avoided in this management area.**

MINERALS AND ENERGY

MA-10b-20 **Exploration and development access requirements, as well as operating plans, should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Motorized recreation.**

MA-10b-21 **Salable mineral spoils shall be excluded from this management area.**

Leases for oil, gas, or other leasable minerals may be granted following approval of the appropriate NEPA document.

FACILITIES

MA-10b-22 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and non-native materials may be used, but visual impacts should appear subtle to area users.

MA-10b-23 **Road development should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Motorized recreation.**

New trails may be developed commensurate with management objectives established in the Implementation Guide.

MA-10b-24 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.** (See *Forest-wide S&Gs for Soil and Water Quality*).

MANAGEMENT AREA 10c

Emphasis: Dispersed Recreation
Semiprimitive Motorized Use, No Timber Harvest

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Motorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for the conservation of unique geographic, topographic, biological, and ecological processes, as well as significant scenic, wildlife, recreation, and watershed values.

Desired Future Condition

The desired condition is an area which provides for a wide range of recreational opportunities where visitors can experience a high degree of isolation from the sights and sounds of human activity. The setting of this management area will be characterized by an environment where the natural landscape may have been subtly modified but where alterations will not draw the attention of most users. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are both motorized and nonmotorized in nature. Specific activities are centered around nonconsumptive use of land and water areas including hiking, fishing, hunting, horseback riding, ORV use, canoeing, nature study, camping, mountain biking and snowmobiling. There will be moderate evidence of other users, but the concentration of use will remain low. Human activities will not interfere with natural processes involving the development of vegetation communities or the interactions of wildlife with its habitat. No programmed timber harvest will occur. Access will be limited to trails, existing roads outside the management area boundary and roads to existing, developed sites. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions. Site modification will be minimal and not draw the attention of area users.

Description

This prescription applies to areas identified as providing Semiprimitive Motorized recreation opportunities without timber harvest.

Standards And Guidelines

RECREATION MANAGEMENT

MA-10c-01 **This management area shall be available for maximum use for a range of activities that provide Semiprimitive Motorized experiences.**

MA-10c-02 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-10c-03 **Access by motorized vehicles shall be limited to snowmobiles, trail bikes, and ORVs not greater than 42 inches in width.** The general area is open to off-road vehicles and mountain bikes.

SCENIC RESOURCES

MA-10c-04 **All design and implementation practices should be modified as necessary to meet the VQO of Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Partial Retention.**

TIMBER MANAGEMENT

MA-10c-05 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-10c-06 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Semiprimitive Motorized recreation values.**

LANDS

MA-10c-07 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-10c-08 **Utility corridors should not be located in this management area.**

MINERALS AND ENERGY

MA-10c-09 **Exploration and development access requirements, as well as operating plans, should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Motorized recreation.**

MA-10c-10 **Salable mineral spoils shall be excluded from this management area.**

Leases for oil, gas, or other leasable minerals may be granted following approval of the appropriate NEPA document.

FACILITIES

MA-10c-11 **Roads serving developed sites shall remain open.** All other existing roads are closed to motorized use and access, except off-road vehicles.

MA-10c-12 **No new roads shall be developed.** Off-road vehicle, mountain bike and cross-country ski trails may be developed.

MA-10c-13 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual impacts should appear subtle to area users.

MA-10c-14 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.** (See *Forest-wide S&Gs for Soil and Water Quality*).

MANAGEMENT AREA 10d

Emphasis: Dispersed Recreation
Semiprimitive Nonmotorized Use, 5% Timber Harvest

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Nonmotorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for the conservation of unique geographic, topographic, biological, and ecological processes.
- Provide for wood fiber production, watershed protection, scenic quality, and maintenance of wildlife habitats.

Desired Future Condition

The desired condition is an area which provides for a wide range of recreation opportunities where visitors can experience a high degree of isolation from the sights and sounds of human activity. The setting of this management area will be characterized by the natural landscape which may have been subtly modified but where alterations would not draw the attention of most users. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are exclusively nonmotorized in nature. Specific activities are centered around non-consumptive use of land and water areas including hiking, camping, mountain climbing, nature study, mountain biking, fishing and hunting. The area will also be managed to provide habitat for a wide range of plant and animal species. Human activities will not interfere with natural processes involving the development of vegetation communities or the interactions of wildlife with its habitat. Timber harvest in this management area will occur at a rate of 5% of the suitable and available acres during the first 10 years following plan implementation. Access within and through the area will be limited to trails. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions.

Description

This prescription applies to areas identified as providing Semiprimitive Nonmotorized recreation opportunities with programmed timber harvest.

Standards and Guidelines

PLANNING

MA-10d-01 **An Implementation Guide shall be prepared for each Semiprimitive Nonmotorized recreation area, describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-10d-02 **This management area shall be available for maximum use for a range of activities that provide Semiprimitive Nonmotorized ROS class experiences.**

MA-10d-03 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-10d-04 **Recreation stock should be held overnight outside the foreground viewing areas of lakes, streams, camp areas, and trails.**

MA-10d-05 **The general area shall be closed to off-road vehicles.** Mountain bike use is restricted to established trails and roads.

SCENIC RESOURCES

MA-10d-06 **All design and implementation practices should be modified as necessary to meet the VQO of Retention.**

TIMBER MANAGEMENT

MA-10d-07 **Scheduled even-aged timber harvest should not exceed 5% of the suitable and available area within the viewshed during the first 10 years following plan implementation.** Some variation is permitted when site specific conditions warrant different rotation lengths or silvicultural systems.

MA-10d-08 **Maximum unit size for regeneration harvest should be 5 acres. Roadside zones in the major travel corridors should have a maximum unit size of 2 acres.** The preferred unit sizes are 3-5 acres in the general foreground.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities and maintenance of understory vegetation in roadside frontage zones, and transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-10d-09 **Stumps should be flush cut.**

MA-10d-10 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload remove, hand pile/burn.

MA-10d-11 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-10d-12 **Vegetation control in the roadside zones should employ hand methods of control.**

MA-10d-13 **Created openings in major travel corridors should not exceed 300 lineal feet/mile per side of the road within the management area.**

MA-10d-14 **Ten percent of the area should be maintained in an old-growth size/age class condition at all times.** Overstory trees maintained in the old-growth seral stage should exhibit diameter, bark texture, color, branching habit, height, and crown characteristics typical of each species type and growing site. Other structural components of old growth may or may not be present.

MA-10d-15 **A harvest unit should be considered a created opening until the regenerated stand is 10 to 15 feet in height. In lodgepole pine stands, a created opening exists until the regenerated stand is 4 1/2 feet in height.**

MA-10d-16 **The maximum area in created openings within a viewshed should not exceed 10 percent of the acres available and suited for timber harvest in the management area.** This will balance any previous harvest which exceeds the specified harvest rate/decade.

DIVERSITY

MA-10d-17 **All harvest units should retain at least 10 live, green trees per acre. These trees should be dominant/co-dominant conifers within the stand.** The objective will be to provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the management area.

FIRE MANAGEMENT

MA-10d-18 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Semiprimitive Nonmotorized recreation values.**

LANDS

MA-10d-19 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-10d-20 **Location of utility corridors shall be excluded in this management area.**

MINERALS AND ENERGY

MA-10d-21 **Exploration and development access requirements, as well as operating plans, should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Nonmotorized recreation.**

MA-10d-22 **Salable mineral spoils shall be excluded from this management area.**

Leases for oil, gas, or other leasable minerals may be granted following approval of the appropriate NEPA document.

FACILITIES

MA-10d-23 **Existing roads shall be closed to motorized use and access.** (See *Forest-wide S&Gs for Facilities, Road Closures.*)

MA-10d-24 **No new roads shall be developed.** New trails may be developed commensurate with management objectives established in individual Implementation Guides.

MA-10d-25 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual impacts should appear subtle to area users.

MA-10d-26 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.** (See *Forest-wide S&Gs for Soil and Water Quality*).

MANAGEMENT AREA 10e

Emphasis: Dispersed Recreation
Semiprimitive Nonmotorized Use, No Timber Harvest

Management Goals

The goals of this management area are to:

- Provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Nonmotorized experience through the management of user activities and natural resource settings.
- Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenge and risk.
- Provide for the conservation of unique geographic, topographic, biological, and ecological processes, as well as significant scenic, wildlife, recreation, and watershed values.

Desired Future Condition

The desired condition is an area which provides for a wide range of recreation opportunities where visitors can experience a high degree of isolation from the sights and sounds of human activity. The setting of this management area will be characterized by an environment where the natural landscape may have been subtly modified but where alterations would not draw the attention of most users. Recreational use will vary by season but will generally remain light and user interaction will be infrequent. Activities associated with this area are exclusively nonmotorized in nature. Specific activities are centered around nonconsumptive use of land and water areas including hiking, camping, mountain climbing, nature study, mountain biking, fishing and hunting. The area will also be managed to provide habitat for a wide range of plant and animal species. Human activities will not interfere with natural processes involving the development of vegetation communities or the interactions of wildlife with its habitat. Programmed timber harvest is not permitted within this management area. Access within and through the area will be limited to trails and existing roads. Except as necessary to protect fragile resources, facilities will be limited to trail shelters or to meet sanitary or safety needs. All will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions.

Description

This prescription applies to areas identified as providing Semiprimitive Nonmotorized recreation opportunities with no programmed timber harvest.

Standards and Guidelines

PLANNING

MA-10e-01 **An Implementation Guide shall be prepared for each Semiprimitive Nonmotorized recreation area describing site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. Site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-10e-02 **This management area shall be available for maximum use for a range of activities that provide Semiprimitive Nonmotorized ROS class experiences.**

MA-10e-03 **Group sizes, with any combination of people and livestock, should not exceed 25.** Larger groups may be accommodated by permit.

MA-10e-04 **Recreation stock should be held overnight outside the foreground viewing areas of lakes, streams, camp areas, and trails.**

MA-10e-05 **The general area shall be closed to off-road vehicles.** Mountain bike use is restricted to established trails and roads.

SCENIC RESOURCES

MA-10e-06 **All design and implementation practices should be modified as necessary to meet the VQO of Preservation. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Retention.**

TIMBER MANAGEMENT

MA-10e-07 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-10e-08 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on Semiprimitive Nonmotorized recreation values.**

LANDS

MA-10e-09 **Requests for special use permits shall be considered and may be issued for compatible uses.**

MA-10e-10 **Location of utility corridors shall be excluded in this management area.**

MINERALS AND ENERGY

MA-10e-11 **Exploration and development access requirements, as well as operating plans, should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Nonmotorized recreation.**

MA-10e-12 **Salable mineral spoils shall be excluded from this management area.**

Leases for oil, gas, or other leasable minerals may be granted following approval of the appropriate NEPA document.

FACILITIES

MA-10e-13 **Existing roads shall be closed to motorized use and access.** (See *Forest-wide S&Gs for Facilities, Road Closures.*)

MA-10e-14 **No new roads shall be developed.** New trails may be developed commensurate with management objectives established in individual Implementation Guides.

MA-10e-15 **Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual effects should appear subtle to area users.

MA-10e-16 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.** (See *Forest-wide S&Gs for Soil and Water Quality*).

MANAGEMENT AREA 10f

Emphasis: Lakeside Areas - Wildlife Habitat and Recreation

Management Goals

The goals of this management area are to:

- Provide Roaded Natural recreation experiences through the management of user activities and natural resource settings.
- Maintain the diversity of wildlife habitats that are provided in the lakeside areas.

Desired Future Condition

The desired condition is a series of natural appearing settings around small nonwilderness lakes providing fish and wildlife habitat as well as recreation and angling opportunities. Recreational use will vary by season, with the highest concentration occurring in the summer months. Visitors will experience a moderate degree of isolation from the sights and sounds of human activity. Activities are limited to nonmotorized in areas that are currently undeveloped and nonconsumptive use of land and water areas including hiking, camping, nature study, and fishing. In areas where access and facilities do not currently exist, additional development will maintain or enhance the quality and diversity of wildlife habitat. In areas with existing access and other facilities, additional development such as trails, sanitation facilities, or interpretive signing, may be provided to enhance the recreation experience while protecting key wildlife values. Programmed timber harvest is not permitted within this management area. Access within and through the area will be limited to trails and existing roads. Structures will be simple in design and constructed with materials that blend with features of the natural landscape. The area will be managed to minimize the presence of on-site controls and use restrictions.

Description

This prescription applies to the areas adjacent to small, nonwilderness lakes. The area within approximately 600 feet of the waterline is defined as a riparian area and the prescription for this area is found in Management Area 15. To the extent MA 10f direction is consistent with the direction of Management Area 15, the goals and objectives for this management area will be considered within the identified riparian area.

A list of fish-bearing lakes is included in Appendix E. The list describes the current level of access referred to in following S&Gs.

Standards and Guidelines

PLANNING

MA-10f-01 **An Implementation Guide shall be prepared for each identified nonwilderness lake, describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.** The extent of development within any area will be based on an analysis of the resource conditions and protection needs of the site. If appropriate, site development plans will be prepared as part of the Implementation Guide, showing the design and location of proposed facilities.

RECREATION MANAGEMENT

MA-10f-02 **This management area shall provide for at least a ROS class of Roaded Natural ROS (except for size) or Semiprimitive Nonmotorized where size and adjacent land uses are compatible.**

MA-10f-03 **Group sizes, with any combination of people and livestock, should not exceed 12.** Larger groups may be accommodated by permit.

MA-10f-04 **Recreation stock should be held overnight outside the foreground viewing areas of lakes, streams, camp areas, and trails.**

MA-10f-05 **The general area shall be closed to off-road vehicles.** Mountain bike use is restricted to established trails and roads.

SCENIC RESOURCES

MA-10f-06 **All design and implementation practices should be modified as necessary to meet the VQO of Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Partial Retention.**

WILDLIFE

MA-10f-07 **The habitat for primary cavity excavators shall be managed at 100% of the potential population level.** Individual trees may be felled where necessary for public safety. Scattered, felled trees will be left on site.

TIMBER MANAGEMENT

MA-10f-08 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

FIRE MANAGEMENT

MA-10f-09 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on wildlife and fish habitat and ROS class of the area.**

MA-10f-10 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

MA-10f-11 **Special use permits should only be issued for compatible uses.**

MA-10f-12 **Location of utility corridors shall be excluded in this management area.**

MINERALS AND ENERGY

MA-10f-13 **This area shall be recommended for withdrawal from geothermal and mineral entry.**

FACILITIES

MA-10f-14 **Additional trails should be provided only to lakes with existing, developed access.** New trails may be developed commensurate with management objectives established in individual Implementation Guides.

MA-10f-15 **Existing trails should be maintained at levels commensurate with experienced use.** Trail improvements will be designed to encourage users to remain on the existing trail and not to develop new routes.

MA-10f-16 **Existing roads shall be evaluated for compatibility with management area objectives and resource impacts. Access should be restricted if the evaluation indicates problems such as overuse or adverse environmental effects.**

MA-10f-17 **No new roads shall be developed.**

MA-10f-18 **Structures and improvements should be provided to facilitate use, protect resource values and aid administration.** These may include trail shelters, toilets, bridges, and culverts. Dimensional and nonnative materials may be used, but visual impacts should appear subtle to area users.

MA-10f-19 **Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailhead facilities, and other recreation-related facilities.**

MANAGEMENT AREA 11a

Emphasis: Scenic - Modification Middleground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a modest level of scenic quality. This area will also be managed for other resource goals including timber production, recreation opportunities, watershed protection, and maintenance of wildlife habitats.

Desired Future Condition

These scenic areas will be managed to retain the natural features of the forest landscape. Management activities will be conducted at a scale such that their visual characteristics are compatible with the natural surroundings. Although management activities may visually dominate the natural surroundings, alterations will borrow from established form, line, color, and texture elements of the original landscape. Unnatural features such as structures, roads, slash, and other developments will remain visually subordinate to the proposed composition.

Description

This prescription applies to Forest lands that are middle ground zones of visually sensitive landscapes viewed from major cross-Forest highways and travel routes, recreation use areas, and rivers. These are the most common public vistas. The scenic quality of these areas affects the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11a-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Modified.**

SCENIC RESOURCES

MA-11a-02 **All design and implementation practices should be modified as necessary to meet the VQO of Modification.**

MA-11a-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Modification objective.**

TIMBER MANAGEMENT

MA-11a-04 **Scheduled even-aged timber harvest should not exceed 12% of the suitable and available land within this management area during the first 10 years following plan implementation.** Some variation is permitted when site specific conditions warrant different rotation lengths or silvicultural systems.

MA-11a-05 **Maximum size for even-aged regeneration harvest units should be 30 acres.** Unit sizes of 15-30 acres are preferred.

MA-11a-06 Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities, as well as transportation planning and design decisions that affect route location and structures.

MA-11a-07 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-11a-08 **A harvest unit shall be considered disturbed until the regenerated stand is 4.5 feet in height.**

MA-11a-09 **The maximum area in a disturbed condition should not exceed 24% of the acres available and suited for timber harvest in this management area.** This will balance any previous harvest which exceeds the specified harvest rate per decade.

MANAGEMENT AREA 11b

Emphasis: Scenic - Modification Foreground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a modest level of scenic quality. This area will also be managed for other resource goals including timber production, recreation opportunities, watershed protection, and maintenance of wildlife habitats.

Desired Future Condition

These scenic areas will be managed to retain the natural features of the forest landscape. Management activities will be conducted at a scale such that their visual characteristics are compatible with the natural surroundings. Although management activities may visually dominate the natural surroundings, alterations will borrow from established form, line, color, and texture elements of the original landscape. Structures, roads, slash, and other developments will remain visually subordinate to the proposed composition.

Description

This prescription applies to Forest lands that are foreground zones of moderately sensitive landscapes viewed from minor Forest travel routes and recreation use areas. These foreground zones are public vistas of moderate importance. The scenic quality of these areas may affect the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11b-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Modified.**

SCENIC RESOURCES

MA-11b-02 **All design and implementation practices should be modified as necessary to meet or exceed the VQO of Modification.**

MA-11b-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Modification objective.**

TIMBER MANAGEMENT

MA-11b-04 **Scheduled even-aged timber harvest should not exceed 10% of the suitable and available land within the management area during the first 10 years following plan implementation.** Some variation is permitted when site specific conditions warrant different rotation lengths or silvicultural systems.

MA-11b-05 **Maximum size of even-aged regeneration harvest units should be 15 acres. Roadside frontage zones along collector and arterial roads should have a maximum unit size of 5 acres.** Unit sizes of 8-15 acres are preferred. In roadside frontage zones unit sizes of 3-5 acres are preferred.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities, as well as transportation planning and design decisions that affect route location and road structures.

MA-11b-06 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-11b-07 **Created openings should not exceed 500 lineal feet per mile per side of a road.**

MA-11b-08 **Stumps should be flush cut.**

MA-11b-09 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload removal, hand pile/burn.

MA-11b-10 **Vegetation control in roadside frontage zones should employ hand treatment methods.**

MA-11b-11 **A harvest unit shall be considered disturbed until the regenerated stand is 8-10 feet in height. In lodgepole pine stands, a disturbed condition exists until the regenerated stand is 4.5 feet in height.**

MA-11b-12 **The maximum area in a disturbed condition should not exceed 20% of the acres available and suited for timber harvest in this management area.** This will balance any previous harvest which exceeds the specified harvest rate per decade.

MANAGEMENT AREA 11c

Empahsis: Scenic - Partial Retention Middleground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a moderate level of scenic quality. This area will also be managed for other resource goals including timber production, recreation opportunities, watershed protection, and maintenance of wildlife habitats.

Desired Future Condition

These scenic areas will be managed to maintain a near natural setting. However, forest management activities will be noticeable in the middle and background zones as viewed from major travel routes and recreation sites. Resource treatments will be conducted in such a way that they are visually subordinate to the characteristic landscape. Alterations will remain subordinate by repeating the form, line, color and texture elements which are characteristic of the landscape. Visual contrast will be minimized through shape, edge effect, scale, and distribution of resource treatments.

Description

This prescription applies to Forest lands that are middle ground zones of visually sensitive landscapes viewed from major cross-Forest highways and travel routes, recreation use areas, and rivers. These are some of the most common public vistas. The scenic quality of these areas may affect the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11c-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

SCENIC RESOURCES

MA-11c-02 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

MA-11c-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Partial Retention objective.**

TIMBER MANAGEMENT

MA-11c-04 **Scheduled even-aged timber harvest should not exceed 10% of the suitable and available lands within the management area during the first 10 years following Forest Plan implementation.** Some variation is permitted when site specific conditions warrant different rotation lengths or silvicultural systems.

MA-11c-05 **Maximum size of even-aged regeneration harvest units should be 15 acres.** Unit sizes of 10-15 acres are preferred.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities, as well as transportation planning and design decisions that affect route location and road structure.

MA-11c-06 **Regeneration stock protection devices and pest management devices should blend with the natural surroundings.**

MA-11c-07 **A harvest unit should be considered disturbed until the regenerated stand is 15-20 feet in height. In lodgepole pine stands, a disturbed condition exists until the regenerated stand is 4.5 feet in height.**

MA-11c-08 **The maximum area in a disturbed condition should not exceed 20% of the acres available and suited for timber harvest in this management area.** This standard is designed to balance any previous harvest which exceeds the specified harvest rate per decade.

MANAGEMENT AREA 11d

Emphasis: Scenic - Partial Retention Foreground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a moderate level of scenic quality. This area will also be managed for other resource goals including maintenance of wildlife habitats, recreation opportunities, watershed protection, and timber production.

Desired Future Condition

These scenic areas will be managed to maintain a near natural setting. Although management activities will be noticeable, they will remain subordinate when viewed in foreground zones along major travel routes and recreation sites. Resource treatments will be conducted in such a way that they are visually subordinate to the characteristic landscape. Alterations will remain subordinate by repeating form, line, color and texture elements which are characteristic of the landscape. Visual contrast will be minimized through the shape, edge effect, scale, and distribution of resource treatments.

Description

This prescription applies to Forest lands that are foreground zones of visually sensitive landscapes viewed from major cross-Forest highways and travel routes, recreation use areas, and rivers. These are the most common public vistas. The scenic quality of these areas may affect the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11d-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

SCENIC RESOURCES

MA-11d-02 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

MA-11d-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Partial Retention objective.**

WILDLIFE MANAGEMENT

MA-11d-04 **Management activities shall consider the habitat requirements of ecological indicators for mature and old-growth forests.** Landscape patterns which provide adequate amounts and quality of suitable habitat within the management area will maintain or enhance the habitat capability for wildlife species associated with mature and old-growth forest ecosystems.

MA-11d-05 **Timber harvest within managed PWHAs in MA 11 should be scheduled to maintain at least 300 contiguous acres of suitable nesting habitat. Refer to MA 9b for additional direction.**

MA-11d-06 **Timber harvests within the managed MHAs in MA 11 should be scheduled to maintain at least 160 contiguous acres of denning habitat. Refer to MA 9c for additional direction.**

TIMBER MANAGEMENT

MA-11d-07 **Scheduled even-aged timber harvest should not exceed 7% of the suitable and available land within the management area during the first 10 years following Forest Plan implementation.** Some variation is permitted if silvicultural systems such as uneven-aged management or individual tree selection are applied.

MA-11d-08 **Maximum size of even-aged regeneration harvest units should be 8 acres. Roadside frontage zones in the major travel corridors should have a maximum unit size of 3 acres.** The preferred unit sizes are 5-8 acres in the general foreground and 2-3 acres in the roadside frontage zone.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities and maintenance of understory vegetation in road frontage zones and transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-11d-09 **Created openings in major travel corridors should not exceed 300 lineal feet/mile per side of the road.**

MA-11d-10 **Stumps should be flush cut.**

MA-11d-11 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload/remove, hand pile/burn.

MA-11d-12 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-11d-13 **Vegetation control in roadside frontage zones should employ hand control methods.**

MA-11d-14 **Seven percent of the area should be maintained in an old-growth size/age class condition at all times. Overstory trees maintained in the old-growth seral stage should exhibit diameter, bark texture, color, branching habit, height, and crown characteristics typical of each species type and growing site.** Other structural components of old-growth may or may not be present.

MA-11d-15 **A harvest unit shall be considered disturbed until the regenerated stand is 10-15 feet in height. In lodgepole pine stands, a disturbed condition exists until the regenerated stand is 4.5 feet in height.**

MA-11d-16 **The maximum area in a disturbed condition should not exceed 14% of the acres available and suited for timber harvest in this management area.** This will balance any previous harvest which exceeds the specified harvest rate per decade.

DIVERSITY

MA-11d-17 **All harvest units should retain at least 10 live, green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** The objective is to provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the management area.

MANAGEMENT AREA 11e

Emphasis: Scenic - Retention Middleground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a high level of scenic quality. This area may be managed for other resource goals including maintenance of wildlife habitats, recreation opportunities, watershed protection, and timber production.

Desired Future Condition

The Forest's visually sensitive travel corridors will be managed to maintain a natural or near natural setting. Multiple use activities will be conducted in such a way that they are completely subordinate to the character of the natural landscape and not evident to the casual Forest visitor. Unusual landscape features with distinctive variety in form, line, color and texture will be retained and perpetuated. Important individual landscape elements will be retained to meet forest user expectations. These elements include: large trees, distinctive bark, spring and fall color, shrubs and ground cover, and a variety of tree species having age class diversity.

Landscapes are dynamic and even those areas of high aesthetic value may require some management activity to retain their valued character. Manipulations to forest vegetation, geologic formations and soil layers may be employed to accomplish this. These manipulations will repeat the form, line, color, and texture elements which are commonly found in the characteristic landscape. Changes in their qualities of size, amount, intensity, direction, and pattern will not be evident to the casual observer. The desired forest character will be maintained in an attractive sequential arrangement through time and space.

Description

This prescription applies to Forest lands that are middleground zones of visually sensitive landscapes viewed from major cross-Forest highways and travel routes, recreation use areas, and rivers. These are the most common public vistas. The scenic quality of these areas may affect the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11e-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

SCENIC RESOURCES

MA-11e-02 **All design and implementation practices should be modified as necessary to meet the VQO of Retention.**

MA-11e-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Retention objective.**

WILDLIFE MANAGEMENT

MA-11e-04 **Management activities shall consider the habitat requirements of ecological indicators for mature and old-growth forests.** Landscape patterns which provide adequate amounts and quality of suitable habitat within the management area will maintain or enhance the habitat capability for wildlife species associated with mature and old-growth forest ecosystems.

MA-11e-05 **Timber harvest within managed PWHAs in MA 11 should be scheduled to maintain at least 300 contiguous acres of suitable nesting habitat. Refer to MA 9b for additional direction.**

MA-11e-06 **Timber harvests within the managed MHAs in MA 11 should be scheduled to maintain at least 160 contiguous acres of denning habitat. Refer to MA 9c for additional direction.**

TIMBER MANAGEMENT

MA-11e-07 **Scheduled even-aged timber harvest should not exceed 7% of the suitable and available land within the management area during the first 10 years following Forest Plan implementation.** Some variation is permitted if silvicultural systems such as uneven-aged management or individual tree selection are applied.

MA-11e-08 **Maximum size of even-aged regeneration harvest units should be 10 acres for oblique views and 3 acres for direct frontal views. Under special conditions, complete removal of vegetative cover over a whole landform is acceptable provided the size of the treatment area is in scale with the characteristic landscape.** Unit sizes of 5-10 acres for oblique views and 1-3 acres for frontal views are preferred.

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities, as well as transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-11e-09 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-11e-10 **A harvest unit shall be considered disturbed until the regenerated stand is 15-20 feet in height. In lodgepole pine stands, a disturbed condition exists until the regenerated stand is 4.5 feet in height.**

MA-11e-11 **The maximum area in a disturbed condition should not exceed 14% of the acres available and suited for timber harvest in this management area.** This will balance any previous harvest which exceeds the specified harvest rate per decade.

DIVERSITY

MA-11e-12 **All harvest units should retain at least 10 live, green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** The objective is to provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the management area.

MANAGEMENT AREA 11f

Emphasis: Scenic - Retention Foreground

Management Goal

The goal of this management area is to create and maintain desired visual characteristics of the forest landscape through time and space. Visually sensitive landscapes will be managed for a high visual quality. This area may be managed for other resource goals including maintenance of wildlife habitats, recreation opportunities, watershed protection, and timber production.

Desired Future Condition

The Forest's visually sensitive travel corridors will be managed to maintain a natural or near natural setting. Activities will be conducted in such a way that they are completely subordinate to the character of the natural landscape and not evident to the casual Forest visitor. Unusual landscape features with distinctive variety in form, line, color and texture will be retained and perpetuated. Important individual landscape elements will be retained to meet forest user expectations. These elements include: large trees, distinctive bark, spring and fall color, shrubs and ground cover, and a variety of tree species having age class diversity.

Landscapes are dynamic and even those areas of high aesthetic value may require some management activity to retain their valued character. Manipulations to forest vegetation, geologic formations and soil layers may be employed to accomplish this. These manipulations will repeat the form, line, color, and texture elements which are commonly found in the characteristic landscape. Changes in their qualities of size, amount, intensity, direction, and pattern will not be evident to the casual observer. The desired forest character will be maintained in an attractive sequential arrangement through time and space.

Description

This prescription applies to Forest lands that are foreground zones of visually sensitive landscapes viewed from major cross-Forest highways and travel routes, recreation use areas, and rivers. These are the most common public vistas. The scenic quality of these areas may affect the recreational experience of those viewing it.

Standards and Guidelines

RECREATION MANAGEMENT

MA-11f-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

SCENIC RESOURCES

MA-11f-02 **All design and implementation practices should be modified as necessary to meet the VQO of Retention.**

MA-11f-03 **Viewsheds should be studied to assess the existing visual condition of the area, and to determine the degree of future effect that may be permitted or the need for rehabilitation or enhancement under the Retention objective.**

WILDLIFE MANAGEMENT

MA-11f-04 **Management activities shall consider the habitat requirements of ecological indicators for mature and old growth forests.** Landscape patterns which provide adequate amounts and quality of suitable habitat within the management area will maintain or enhance the habitat capability for wildlife species associated with mature and old growth forest ecosystems.

MA-11f-05 **Timber harvest within managed PWHAs in MA 11 should be scheduled to maintain at least 300 contiguous acres of suitable nesting habitat. Refer to MA 9b for additional direction.**

MA-11f-06 **Timber harvests within the managed MHAs in MA 11 should be scheduled to maintain at least 160 contiguous acres of denning habitat. Refer to MA 9c for additional direction.**

TIMBER MANAGEMENT

MA-11f-07 **Scheduled even-aged timber harvest should not exceed 5% of the suitable and available land within the management area during the first 10 years following Forest Plan implementation.** Some variation is permitted if silvicultural systems such as uneven-aged management or individual tree selection are applied.

MA-11f-08 **Maximum unit size for even-aged regeneration harvest should be 5 acres. Roadside zones in the major travel corridors should have a maximum unit size of 2 acres.**

Minimize contrast in form, line, color, and texture with the characteristic landscape through manipulation of edge, shape, scale, and distribution of treatment activities and maintenance of understory vegetation in roadside frontage zones, and transportation planning and design decisions that affect route location, landform alterations, and road structures.

MA-11f-09 **Stumps should be flush cut.**

MA-11f-10 **Visible landings should be reshaped to blend with the landscape and ground cover should be established.**

Preferred slash disposal methods include chip/disperse, chip/remove, truckload remove, hand pile/burn.

MA-11f-11 **Regeneration stock protective devices and pest management devices should blend with the natural surroundings.**

MA-11f-12 **Vegetation control should employ hand-treatment methods in roadside zones.**

MA-11f-13 **Created openings in major travel corridors should not exceed 300 lineal feet/mile per side of the road.**

MA-11f-14 **Ten percent of the area should be maintained in an old-growth size/age class condition at all times. Overstory trees maintained in the old-growth seral stage should exhibit diameter, bark texture, color, branching habit, height, and crown characteristics typical of each species type and growing site.** Other structural components of old growth may or may not be present.

MA-11f-15 **A harvest unit shall be considered disturbed until the regenerated stand is 10-15 feet in height. In lodgepole pine stands, a disturbed condition exists until the regenerated stand is 4.5 feet in height.**

MA-11f-16 **The maximum area in a disturbed condition should not exceed 10% of the acres available and suited for timber harvest in the management area.** This will balance any previous harvest which exceeds the specified harvest rate per decade.

DIVERSITY

MA-11f-17 **All harvest units should retain at least 10 live, green trees per acre. These trees should be dominant or co-dominant conifers within the stand.** The objective is to provide significant amounts of remnant vegetative structure from the harvested stand to maintain the dispersal and connective corridor values within the management area.

MANAGEMENT AREA 12a

Emphasis: Developed Recreation Sites

Management Goals

The primary goals of this management area are to:

- Provide a safe, healthful, aesthetic, nonurban atmosphere for the pursuit of natural resource based recreation.
- Provide facilities and improvements, consistent with resource protection needs and anticipated user demand, where opportunities for meaningful recreation experiences exist.

Desired Future Condition

The desired future condition is a variety of forest settings providing a range of recreation opportunities dependent on developed facilities. Development will include campgrounds, picnic areas, visitor centers, scenic overlooks, boat ramps, swimming areas, parking lots, and access roads. Facilities will be subordinate to the focal attraction and will appear as natural, simple, and unobtrusive as possible. Use and occupancy will be regulated to protect natural resources and to ensure safe, enjoyable recreation experiences. Future development will be based on user demand patterns and specific site suitability. Improvements will be designed to complement existing area developments and to expand the Forest's capacity to accommodate additional use.

Description

This prescription applies to existing developed recreation sites and proposed development areas listed in the Resource Summary section of Chapter IV.

Standards and Guidelines

OPERATION AND MAINTENANCE

MA-12a-01 **An operation and maintenance plan shall be prepared and updated annually for all sites.**

MA-12a-02 **Each site shall be inspected annually and all known safety hazards should be eliminated to the extent practicable.**

MA-12a-03 **Personnel who perform operation and maintenance (O&M) functions should be familiar with O&M service levels of O&M plans. Cleaning should be performed regularly to ensure that sites are clean and sanitary, free of litter, and neat in appearance.** (See *USDA Handbook Cleaning Recreation Sites.*)

MA-12a-04 **Site improvements should be maintained to their design standards with priority given to health and safety related items.**

MA-12a-05 **Potable water sources shall be operated and maintained in accord with FSM 7420 and federal, state, and local regulations.** Water supply systems will be closed if testing indicates a hazard to human health.

MA-12a-06 **Vaults, septic tanks, and waste-water systems shall be inspected at regular intervals to ensure proper operation. Any system deemed dysfunctional or threatening to human health, wildlife, or water sources shall be closed or repaired.**

MA-12a-07 **Garbage disposal should be accomplished at intervals sufficient to minimize odors, prevent pollution of water supplies, and avoid attracting disease spreading insects and rodents.**

RECREATION MANAGEMENT

MA-12a-08 **The physical setting for this management area shall meet the criteria for several ROS classes ranging from Roaded Natural to Semiprimitive Nonmotorized depending on the location and the degree of development.**

MA-12a-09 **The general area shall be closed to off-road vehicle use.**

MA-12a-10 **Occupancy and use shall be regulated to the extent necessary to protect the resources, and to ensure safe, enjoyable recreation experiences for the maximum number of visitors at the experience level for which the sites were designed.** Regulations contained in 36 CFR 261 will be utilized as necessary to ensure full public enjoyment of recreation sites.

MA-12a-11 **Fees shall be collected for those sites that meet LWCFA fee site designation criteria.** Clearly notify the public of the conditions of occupancy and use of recreation sites.

MA-12a-12 **Periodic patrols and site supervision should be provided where appropriate.** Volunteer hosts may be used in some situations.

SCENIC RESOURCES

MA-12a-13 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

SOIL, WATER AND AIR QUALITY

MA-12a-14 **Soil compaction should not exceed established limits except as necessary to accommodate development or rehabilitation of sites.** (See *Forest-wide Standards and Guidelines for Soil and Water Quality*).

MA-12a-15 **Rehabilitation shall conform to the approved site plan.**

TIMBER MANAGEMENT

MA-12a-16 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-12a-17 **Vegetation removal shall be limited to the protection of area values, health and safety, and the preparation of the site for rehabilitation or future development.**

FIRE MANAGEMENT

MA-12a-18 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on developed recreation values.**

MA-12a-19 **Fires should be suppressed at the lowest acreage practicable.**

LANDS

MA-12a-20 **Developed sites should not be available for other uses provided by special permit.** Exceptions may be made for short-term uses such as weddings, reunions, and special services related to the administration, operation, and maintenance of sites.

MINERALS AND ENERGY

MA-12a-21 **Sites not previously withdrawn shall be recommended for withdrawal from mineral entry.**

MA-12a-22 **Removal of common variety minerals shall be prohibited.**

MA-12a-23 **Applications for leasable minerals shall be recommended for denial.**

FACILITIES

MA-12a-24 **New trails and roads may be developed and shall be commensurate with management objectives established in the site plan.**

MANAGEMENT AREA 12b

Emphasis: Developed Recreation - Special Use Sites

Management Goals

The primary goals of this management area are to:

- Provide a safe, healthful, aesthetic, nonurban atmosphere for the pursuit of natural resource based recreation consistent with resource protection needs and anticipated user demand.
- Where opportunities for meaningful recreation experiences exist, provide facilities and services according to the terms of individual special use agreements with private individuals or organizations.

Desired Future Condition

The desired future condition is a variety of developed recreation facilities provided by private concessionaires within a forested setting. Developed recreation opportunities will center around winter sports sites, summer homes, organization camps, resorts, and lodges. New facilities will be subordinate to the focal attraction and will appear natural, simple, and unobtrusive as possible. Some existing developments, such as ski areas or resorts, may appear dominant in the natural landscape when viewed from certain locations. Use and occupancy will be regulated according to the terms of the special use agreement to protect natural resources and to ensure safe, enjoyable recreation experiences. Future development will be based on user demand patterns and specific site suitability. Improvements will be designed to complement existing area developments and to expand the Forest's capacity to accommodate additional use.

Description

This prescription applies to existing and proposed developed recreation sites managed under special use permit.

Standards and Guidelines

ADMINISTRATION AND PLANNING

MA-12b-01 **A comprehensive and detailed site plan shall be developed prior to site improvement in accord with requirements specified in FSM 2337.**

MA-12b-02 **Site plans shall show the specific location and design of all facilities and shall provide for the appropiate utilization of the site, control of traffic, public safety, sanitation, site protection, fire safety, grading, landscape planting, and use distribution.**

MA-12b-03 **All plans and specifications for site development and operations authorized by a special use permit shall conform to building code requirements of the Forest Service, State and local governments.**

MA-12b-04 **Privately financed developments shall be administered to ensure that the terms of the special use permit are being satisfied.** In particular ensure that the character of the site is protected, public health and safety are safeguarded, and public services are being provided satisfactorily and at reasonable rates.

MA-12b-05 **Forest Service owned developments operated by concessionaires shall be inspected regularly to ensure that improvements are being maintained adequately and used according to the terms of the special use permit.**

RECREATION MANAGEMENT

MA-12b-06 **The physical setting for this management area shall meet the criteria for several ROS classes ranging from Roaded Natural to Semiprimitive Nonmotorized depending on the location and the degree of development.**

MA-12b-07 **The general area shall be closed to off-road vehicle use.**

SCENIC RESOURCES

MA-12b-08 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention.**

SOIL, WATER AND AIR QUALITY

MA-12b-09 **Soil compaction should not exceed established limits except as necessary to accommodate development of sites.** (See *Forest-wide Standards and Guidelines for Soil and Water Quality.*)

TIMBER MANAGEMENT

MA-12b-10 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses or for public safety may be permitted. (See *Forest-wide Standards for Changed Environmental Conditions.*)

MA-12b-11 **Harvest activities shall be limited to the protection of area values, health and safety, and to achieve the objectives of the permit.**

FIRE MANAGEMENT

MA-12b-12 **Suppression strategies, practices and activities shall be limited to those which have minimal effects on recreation values.**

MA-12b-13 **Fires should be suppressed at the lowest acreage practicable.**

MINERALS AND ENERGY

MA-12b-14 **Sites not previously withdrawn shall be recommended for withdrawal from mineral entry.**

MA-12b-15 **Removal of common variety minerals shall be prohibited.**

MA-12b-16 **Applications for leasable minerals shall be recommended for denial.**

FACILITIES

MA-12b-17 **New trails and roads may be developed and shall be commensurate with management objectives established in the site plan.**

MA-12b-18 **New structures should be designed to protect resource values such as soil, water quality, vegetation and scenic quality.**

MANAGEMENT AREA 13a

Emphasis: Special Use Permit Areas

Management Goals

The primary goals of this management area are to:

- Provide safe and efficient sites for permitted facilities and improvements to promote the public welfare in an environmentally sound manner.
- Maximize consistency of permitted uses with surrounding land uses.

Desired Future Condition

The desired future condition is a pattern of special uses established to provide services in the public interest in a manner that reflects environmental sensitivity to other resource values. Examples of such special uses include railroad and State highway rights-of-way, communication towers, and power transmission lines. These general types of uses are recognized as fulfilling special needs for public convenience. Due to the nature of these uses and the geographic and topographic nature of the Forest, occupancy of Forest land is necessary for the uses to be effective. The granting of these uses and the conditions under which they allowed take into account the environmental requirements not only of the specific site, but of the goals governing other management areas which might be affected by the operation of the special uses. Valid, existing rights are honored. As opportunities arise to modify the terms and conditions of the existing permits, each special use is analyzed for its environmental effects and appropriate modifications are made. As valid, existing permits expire, or as new ones are proposed, first effort is made to utilize existing sites in ways compatible with previous uses. New types of uses or uses proposed for new sites are examined with strong sensitivity to use and site suitability.

Description

This prescription applies to existing developed special use sites and proposed development areas listed in the Resource Summary section of Chapter IV.

Standards and Guidelines

ISSUANCE

MA-13a-01 **Existing permits shall be reviewed and revised as soon as practicable to conform with this Forest Plan, subject to valid, existing rights.** This may include renewals or assignments of existing permits where the activity is not considered issuance of a new permit.

MA-13a-02 **Upon application for new permits or the expiration of existing ones, permits shall not be issued or reissued until appropriate site specific analysis is**

conducted. This analysis will consider the nature of the proposed use and its effects on other resource values, as well as the practicability of location at the existing site and lands adjacent to them. This analysis may consider the continuing utility of the proposed use to the public welfare, such the effects of changes in technology.

OPERATION AND MAINTENANCE

MA-13a-03 **An operation and maintenance plan shall be prepared and updated according to the terms of existing permits for all sites. If no terms apply, then the operation and maintenance plan shall be prepared and updated annually.**

MA-13a-04 **Each site shall be inspected and all known safety hazards should be eliminated to the extent practicable according to the terms of existing permits for all sites. If no terms apply, then these activities shall occur annually.**

SCENIC RESOURCES

MA-13a-05 **The VQO for each site should consider the visual sensitivity of adjacent management areas.**

TIMBER MANAGEMENT

MA-13a-06 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses or public safety may be permitted after appropriate site specific analysis. (See *Forest-wide Standards for Changed Environmental Conditions*.)

MA-13a-07 **Vegetation removal shall be limited to supporting the functional requirements of the special use, protection of area values, health and safety, and the preparation of the site for rehabilitation or future development.**

LANDS

MA-13a-08 **Developed sites should not be available for other uses incompatible with valid existing rights provided by special permit.** Exceptions may be made for emergency uses which are normally included as permit conditions.

MANAGEMENT AREA 13b

Emphasis: Administrative Use Sites

Management Goals

The primary goals of this management area are to:

- Provide safe, adequate administrative facilities from which to accomplish land and resource management and protection objectives.
- Locate and design administrative facilities in a manner consistent with public needs and to the extent feasible compatible with management area allocations of the occupied site.

Desired Future Condition

The desired future condition is a variety of administrative facilities which promote the efficient and effective accomplishment of land and resource management and protection objectives, including appropriate public access. Administrative facilities are designed and located to be functionally efficient and effective for accomplishing the purposes for which established. To the extent practicable, facilities are constructed consistent with the standards established by local building codes and accessible by the physically challenged; but primitive location or function may at times preclude this (e.g. lookouts). Design and location consider the extent to which public use may reasonably be anticipated. Administrative facilities are as compatible as possible with the management area allocations of the occupied site.

Description

This prescription applies to administrative sites such as Ranger District compounds with associated warehouses and service buildings, lookouts, guard stations, and seed orchards.

Standards and Guidelines

DESIGN AND LOCATION

MA-13b-01 **Design and siting considerations shall include: the proposed purpose of the administrative facility; extent and nature of anticipated public use of the facility; access by the physically challenged; cost efficiency; remodeling or renovating existing sites; local building code requirements; fire safety considerations such as maintenance of green strips and installation of fire resistant roofs; and the goals of the management area that will be adjacent to the facility once the facility is sited.** Generally, the more physically remote and the more specialized the purpose of the facility the less need there is for the full range of amenities and service.

OPERATION AND MAINTENANCE

MA-13b-02 **An operation and maintenance plan shall be prepared and updated annually for all sites.**

MA-13b-03 **Each site shall be inspected annually and all known safety hazards should be eliminated to the extent practical.**

MA-13b-04 **Personnel who perform operation and maintenance (O&M) functions should be familiar with O&M service levels of O&M plans. Cleaning should be performed regularly to ensure that sites are clean and sanitary, free of litter, and neat in appearance.**

MA-13b-05 **Site improvements should be maintained to their design standards with priority given to health and safety-related items.**

MA-13b-06 **Potable water sources shall be operated and maintained in accord with FSM 7420 and Federal, State, and local regulations if provided at the facility.** Water supply systems will be closed if testing indicates a hazard to human health.

MA-13b-07 **Vaults, septic tanks, and waste-water systems shall be inspected at regular intervals to ensure proper operation. Any system deemed dysfunctional or threatening to human health, wildlife, or water sources shall be closed or repaired.**

MA-13b-08 **Garbage disposal should be accomplished at intervals sufficient to minimize odors, prevent pollution of water supplies, and avoid attracting disease spreading insects and rodents.**

SCENIC RESOURCES

MA-13b-09 **All design and implementation practices should meet the VQO of the management area hosting the administrative facility to the extent practicable.** Specific sites may require a higher VQO to meet specific site objectives or to be compatible with adjacent allocations.

TIMBER MANAGEMENT

MA-13b-10 **No programmed harvest shall be scheduled.** Unregulated harvest for the purpose of public safety may be permitted after appropriate site specific analysis. (See *Forest-wide Standards for Changed Environmental Conditions*.)

MA-13b-11 **Vegetation removal shall be limited to the protection of area values, health and safety, and the preparation of the site for rehabilitation or future development.**

FIRE MANAGEMENT

MA-13b-12 **Suppression strategies, practices, and activities shall take into account public and firefighter safety, the relative value of the structure and its likely contents, and the objectives of the adjacent management area.**

MINERALS AND ENERGY

MA-13b-13 **Sites not previously withdrawn shall be recommended for withdrawal from mineral entry.**

MA-13b-14 **Removal of common variety minerals shall be prohibited.**

MA-13b-15 **Applications for leasable minerals shall be recommended for denial.**

MANAGEMENT AREA 14a

Emphasis: General Forest

Management Goal

The primary goal is to produce an optimum and sustainable yield of timber based on the growth potential of the land that is compatible with multiple use objectives and meets environmental requirements for soil, water, air and wildlife habitat quality. In addition this area can provide many opportunities for public use and enjoyment.

Desired Future Condition

The landscape will be a patchwork of age classes and species of trees. On lands suitable for timber production, timber will be available for sale on a nondeclining even-flow basis. There will be an orderly transition from the naturally occurring mature forest to a regulated forest with a balance of acres in each age group up to approximately 80 years old. This transition will take place over several decades as plantations progress through the various ages with new plantations created through the orderly harvesting of a portion of the mature stands in each decade. Most of the existing plantations are 1-30 years old; the progression to a regulated forest will proceed over the next 50-60 years, or longer.

Young stands will be managed to maintain vigor and growth using stand treatments such as reforestation with genetically selected stock, fertilization, precommercial and commercial thinning, and protection from insects, disease and damage. Stands of various conifer species will predominate depending on growing sites; although the natural variety of hardwoods, shrubs and forbs will continue to be components of the ecosystem with fluctuations occurring as stands progress through the seral stages. Managed stands will generally consist of a well-stocked understory with a scattered mix of large snags and green replacement trees. Large woody debris will be left on the ground to provide habitat and maintain long-term soil productivity. After about 60 years these large trees will be gone and replacement snags will come from within the stands. The overall appearance will become more uniform towards the end of the rotation.

The developed road system will provide the access necessary to harvest timber, transport the logs, and tend stands of growing trees. New construction and reconstruction will be planned at the lowest practicable mileage and standard required to provide for efficient transportation of goods, safety of users, and the least effect on resource values. Maintenance of these roads will be based on these same considerations. Some of this road system will be in a low-maintenance state with no vehicle traffic planned to protect watershed conditions, provide for wildlife needs, and control costs.

Description

This Management Area consists of forested lands, physically suited for growing commercial tree crops and production of multiple uses such as timber, wildlife habitats, water quality, soil productivity, recreation, Forest access, and cultural sites.

Standards and Guidelines

RECREATION MANAGEMENT

MA-14a-01 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Modified.**

SCENIC RESOURCES

MA-14a-02 **All design and implementation practices should be modified as necessary to meet or exceed the VQO of Maximum Modification.**

TIMBER MANAGEMENT

Direction for silvicultural treatment is outlined in the *Forest-wide Standards and Guidelines for Timber Management*. In addition, the following standards and guidelines apply to suitable lands within this management area.

Several management prescriptions are applicable to Management Area 14. Each prescription represents a specific set of practices or treatments which are responsive to individual site capabilities and stand conditions. They are described in narrative form and graphically in the matrix that follows:

MA-14a-03 **T-1 Minimum Investment** - These prescriptions apply to existing, immature,unmanaged stands that are beyond the age or condition where precommercial thinning is appropriate:

- ***T-1a*** This prescription is intended for use where cultural treatments cannot be accomplished economically or with existing technology. No cultural treatments are planned before final harvest.
- ***T-1b*** These stands are accessible for, and will be commercially thinned, but have no other planned treatments before final harvest.
- ***T-1c*** These stands will be fertilized and commercially thinned before final harvest.

MA-14a-04 **T-2 Moderate Investment** - These prescriptions are intended for use where only precommercial thinning and final harvest are planned. Commercial thinning cannot be accomplished economically or with existing technology. Illustrations of where this prescription will apply are: areas far enough removed from roads that they cannot be commercially thinned by small cable systems necessary for small log handling; areas where other resource values preclude commercial entry; and remote units originally logged by aerial systems. There is an opportunity to use fertilizer on soil types that show a good response.

- ***T-2a*** Fertilization is not an option due to a stand composition less than 60% Douglas fir.
- ***T-2b*** These sites will be fertilized.

MA-14a-05 **T-3 Full Stocking Level Control:** This prescription applies to stands with less than 60% Douglas fir where fertilizer will not be applied. This intensity is planned to maximize timber production without fertilizer. The area must be accessible for precommercial and commercial thinning as well as other cultural work.

MA-14a-06 **T-4 High Investment:** This prescription is intended to obtain the optimum timber production possible on an individual acre. Every available applicable treatment should be used to increase timber production without violating established standards for other resources or legal requirements. This management prescription applies to stands with a composition of greater than 60% Douglas fir.

Table IV-40 Treatments By Timber Intensity

Prescription Matrix							
Cultural Treatment	**T1-a[2]**	**T1-b[2]**	**T1-c[2]**	**T2-a**	**T2-b**	**T3**	**T4**
Regeneration[1]				X	X	X	X
Pest Management (Survival)	X	X	X	X	X	X	X
Pest Management(Growth)				X	X	X	X
Site Prep. Maximum Stocking				X	X	X	X
Precommercial Thinning				X	X	X	X
Fertilization			X		X		X
Commercial Thinning		X	X			X	X

[1]Natural regeneration is an option.
[2]Existing natural stands.

REGENERATION

MA-14a-07 **Planting with genetically-selected stock should be the preferred method in order to meet the 5-year regeneration period requirement.** Natural regeneration may be considered. A variety of cultural practices will be used to ensure establishment, considering cost and effectiveness. Desirable stocking level is 250-415 trees per acre at 5 years.

PEST MANAGEMENT

MA-14a-08 **All legally available methods may be used, considering cost and effectiveness.** The use of traps, EPA registered pesticides, and animal repellents to protect plantations against pocket gophers, mountain beavers, porcupines, and deer may occur. If insect epidemics threaten, biological as well as chemical control methods may be used.

MA-14a-09 **All plantations that need release from competing vegetation should be evaluated for treatment (See *Pacific Northwest Region's EIS for Managing Competing and Unwanted Vegetation* (USDA, 1988). The full array of available**

vegetation control methods shall be considered, and the method that will accomplish the job with the least chance of environmental damage and at a reasonable cost should be favored. Some of the control methods now available are: hand cutting, hand cutting and burning, hand pulling and grubbing, use of livestock, application of mulch around trees, aerial application of EPA approved herbicides, hand application of herbicides, and hand cutting and treatment with herbicides.

SITE PREPARATION

MA-14a-10 **A variety of treatments consistent with the *Pacific Northwest Region's EIS for Managing Competing and Unwanted Vegetation* (USDA, 1988) shall be considered to ensure attainment of desired stocking levels, considering cost and effectiveness.**

PRECOMMERCIAL THINNING

MA-14a-11 **Precommercial stocking level control should be planned where needed to 300 trees per acre in shade intolerant species and 400 trees per acre in mixed stands of shade tolerant species.**

FERTILIZATION

MA-14a-12 **All stands consisting of 60% or more Douglas fir shall be fertilized.** The preferred application time is between precommercial thinning and the first commercial entry. Older stands may be fertilized if there is a period of at least 5 years before the next commercial entry. The recommended application is 200 lbs. of nitrogen per acre.

COMMERCIAL THINNING

MA-14a-13 **Commercial stocking level control, based on DBH and basal area, should begin when economically feasible.** The first entry could be delayed until the control average stand diameter is about 12 inches without serious consequences. It is recommended that a 20-year interval be planned between thinnings. Generally, scheduling will be predicated on two commercial thinnings in the DF-H and DF-TF strata. One thinning could be planned for the TF and MH-LP strata, however, site conditions and economic feasibility should dictate the commercial thinning entries. The scheduling of commercial thinnings and the stocking levels specified will be based upon site specific data obtained by appropriate stand examination procedures.

NOTE - Other cultural treatments such as pruning may be prescribed based on cost and effectiveness.

MANAGEMENT AREA 14b

Emphasis: General Forest With Deferred Timber Harvest

Management Goal

The primary goal is to produce an optimum and sustainable yield of timber based on the growth potential of the land that is compatible with multiple use objectives and environmental requirements for soil, water, air, and wildlife habitat quality.

Desired Future Condition

The landscape will be a patchwork of age classes and species of trees. On lands suitable for timber production, timber will be available for sale on a nondeclining even-flow basis. There will be an orderly transition from the naturally occurring mature forest to a regulated forest with a balance of acres in each age group up to approximately 80 years old. This transition will take place over several decades as plantations progress through the various ages with new plantations created through the orderly harvesting of a portion of the mature stands in each decade. Most of the existing plantations are 1-30 years old; the progression to a regulated forest will proceed over the next 50-60 years, or longer.

Young stands will be managed to maintain vigor and growth using stand treatments such as reforestation with genetically selected stock, fertilization, precommercial and commercial thinning, and protection from insects, disease and damage. Stands of various conifer species will predominate depending on growing sites; although the natural variety of hardwoods, shrubs and forbs will continue to be components of the ecosystems with fluctuations occurring as stands progress through the seral stages. Managed stands will generally consist of a well-stocked understory with a scattered mix of large snags and green replacement trees. Large woody debris will be left on the ground to provide habitat and maintain long-term soil productivity. After about 60 years these large trees will be gone and replacement snags will come from within the stands. The overall appearance will become more uniform towards the end of the rotation.

The developed road system will provide the access necessary to harvest timber, transport the logs, and tend stands of growing trees. New construction and reconstruction will be planned at the lowest practicable mileage and standard required to provide for efficient transportation of goods, safety of users, and the least effect on resource values. Maintenance of these roads will be based on these same considerations. Some of this road system will be in a low-maintenance state with no vehicle traffic planned, to protect watershed conditions, provide for wildlife needs, and control costs.

Description

This Management Area consists of stands that are not biologically mature such as seedling, saplings and poletimber. It is land physically suited for growing commercial crops of trees and is managed for multiple uses such as timber, wildlife habitats, water quality, soil productivity, recreation, Forest access, and cultural sites.

Standards and Guidelines

RECREATION MANAGEMENT

MA-14b-01 **An ROS setting of Roaded Modified should be provided within the boundaries of this Management Area.**

SCENIC RESOURCES

MA-14b-02 **Management activities should be designed to meet or exceed a VQO of Maximum Modification.**

TIMBER MANAGEMENT

MA-14b-03 **No programmed harvest shall be scheduled during the planning period.** Unregulated harvest for the purpose of salvaging mortality from catastrophic losses may be permitted with an environmental analysis and appropriate documentation. Scattered, endemic tree mortality is frequently needed to meet S&Gs for wildlife trees and biological diversity. (See *Forest-wide Standards for Changed Environmental Conditions*.)

MA-14b-04 **The decision to initiate timber harvest after the first 10 year period will be documented in the appropriate NEPA document.**

MA-14b-05 **Timber management practices used after the decision to initiate timber harvests shall be the same as those listed for MA 14a.**

MANAGEMENT AREA 15

Emphasis: Rivers, Streams, Wetlands, Lakes and Adjacent Riparian Areas

Management Goal

The primary goal in this management area is to maintain the role and function of rivers, streams, wetlands and lakes in the landscape ecology. A significant part of this goal is to manage the vegetation in the adjacent riparian areas for:

- Protection and rehabilitation of the aquatic and terrestrial riparian habitat;
- Maintenance and improvement of water quality while minimizing risks of downstream flooding;
- Management of riparian areas as corridors to provide dispersal habitat for plant and animal species by maintaining connectivity among mature and old growth stands of trees;
- Management and inventory of riparian areas for sensitive, threatened and endangered plant and animal species;
- Management of riparian areas for recreation and scenic use compatible with riparian dependent species;
- Monitoring the impacts of upland management activities on the health and function of the riparian ecosystem.

Desired Future Condition

This management area will provide a continuous and diverse habitat for riparian dependent species and high quality water by protecting and mapping wetlands and floodplains. The water bodies and associated riparian areas will contribute to the diversity and dispersion of fish, wildlife and plants within each subdrainage and also at the larger watershed level. This management area will also provide opportunities for public use and enjoyment through both dispersed and developed recreation management. The recreation uses will be managed to avoid or mitigate adverse effects on riparian dependent resources.

Stream channels will provide diverse, stable habitat for aquatic species as well as maintaining or enhancing water quality. Vegetation on adjacent lands will be managed to provide diverse stands of conifer and hardwood vegetation which provide habitat for riparian dependent species. The amount of large woody debris, both down and standing will be maintained at or above current levels. In areas where this material has been depleted as a result of past harvesting, the amount will increase either through rehabilitation projects, as a result of natural mortality of trees, or both. Along larger rivers and streams, optimal thermal cover for big game will be provided.

Description

This management area includes the bed, banks, and water column of rivers, streams, wetlands and lakes as well as the adjacent land areas. A riparian area is the adjacent land where vegetation and

microclimate are influenced by the stream or lake and the associated high water table. It includes the adjacent land which directly influences the shading and input of large and small organic material to the streams.

In addition, this area generally includes ponds, bogs, wet meadows and other areas identified in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* and in the *Classification of Wetlands and Deepwater Habitats of the United States.*

Additional description of the resource values, objectives and operational considerations for this management area are found in the Willamette National Forest *Riparian Management Field Guide.*

Standards and Guidelines

RIPARIAN MANAGEMENT

MA-15-01 **The width of the riparian management area shall be identified by an on-site reconnaissance of topographic and biotic features and shall be based on the watershed objectives for fish and wildlife habitats, water quality, and recreation.**

MA-15-02 **This management area shall include the 100-year floodplain within 400 feet from the edge of the active channel. Any portion of the 100-year floodplain extending beyond 400 feet should not be included in this management area, but shall be managed in accordance with Executive Order 11988.**

MA-15-03 **Widths that should be considered when determining the management area boundaries are shown below. Exceptions to this range should be documented in project records or environmental assessments.** Wider areas may be designated to allow protection of riparian stands from wind, to use logical topographic, biological or road boundaries. Narrower areas are anticipated only in exceptional situations.

Perennial Streams	**Horizontal Width**
Class I	150 to 400 feet
Class II	100 to 200 feet
Class III - Stable	50 to 100 feet
Class III - Potentially highly unstable & moderately stable	75 to 125 feet
Intermittent Streams	
Class IV - Moderately stable	25 to 50 feet
Class IV - Potentially highly unstable	25 to 100 feet
Lakes	600 feet
Reservoirs	NA
Small Wetlands	150 to 600 feet

MA-15-04 **This management area does not include areas adjacent to reservoirs. Management of areas adjacent to reservoirs should follow direction of Forest-wide S&G for water quality and other resources and management area S&G as allocated.**

MA-15-05 **The following process shall be used when projects or management activities have the potential to create long term, short term, or cumulative adverse effects to the values of the rivers, streams, wetlands,lakes and adjacent riparian areas:**

1. Locate the management area using the following criteria;

- **Within the 100 year floodplain (less than 400 feet from active channel);**
- **Occupied by water tolerant vegetation;**
- **Having vegetation potentially capable of shading or contributing organic small matter to the water body;**
- **Having vegetation that contributes significantly to bank stability.**
- **Incorporate natural irregularities of topography and consider recreation and wildlife use patterns.**
- **Required to provide large woody material to the water body.**

2. Identify the beneficial uses, values and objectives for the area. (See *Appendix E, Watershed*) **Wetland and riparian area values and objectives should be established on a subdrainage area or larger, and should address connectivity of riparian habitat and the influence on downstream effects.**

3. Identify the effects of proposed actions on the following:

- **Public health, safety, and welfare, including water supply, quality, recharge, and discharge; pollution; flood and storm hazards; and sediment and erosion;**

- **Maintenance of the natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrological utility, fish, wildlife, timber;**

- **Other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.** (See *EO 11990*)

4. Assess necessary actions to preserve the beneficial values, and to reduce or mitigate loss of wetlands by giving preferential consideration to riparian dependent resources when conflicts occur among land uses. (See *FSM 2526.03*)

5. Develop a riparian prescription that documents the objectives and actions to be implemented (including contract clauses and language as appropriate) in the riparian management area.

6. Monitor location and effects, and track results through appropriate databases.

Management practices shall be designed to prevent detrimental changes in water temperature or chemical composition, blockage of water courses, or

sedimentation within riparian areas which seriously and adversely affect water conditions or fish habitat. (36 CFR 219.27(e)).

WATER QUALITY

MA-15-06 **Vegetation will be managed to provide water temperatures which protect beneficial uses, as described in Oregon Administrative Rules 340-41-422.**

MA-15-07 **All project proposals in the Salmon Creek and Marion Creek watersheds shall include an objective to improve water quality.** A major part of this objective will be to maintain (Marion Creek) or reduce (Salmon Creek) maximum summer water temperatures that are 70 degrees F or less by 1995, and 67 degrees F by 2000. These watersheds are the water source for State of Oregon fish hatcheries.

MA-15-08 **At least 75% of the existing shade should be maintained.**

MA-15-09 **Activities with potential effects on Class III and IV streams shall be scheduled and designed to maintain or improve water quality in downstream Class I and II waters.**

MA-15-10 **Projects shall be designed using BMPs to meet Oregon State Water Quality Standards.** Refer to *General Water Quality Best Management Practices, Pacific Northwest Region, 1988* and *Appendix E, Watershed* for further information on BMPs.

MA-15-11 **Streambanks and channel stability shall be protected, rehabilitated or enhanced to meet the water quality and aquatic habitat objectives.**

MA-15-12 **Management in riparian areas shall provide for a continued input of large woody debris at rates similar to those in areas without past timber removal.** Large wood will reduce the movement of debris torrents through channels and provide channel stability. Channel stability will also be maintained through measures listed in *Forest-wide Standards and Guidelines for Water Quality*.

MA-15-13 **The value and functioning of floodplains shall be protected, rehabilitated or enhanced.** Floodplains are valuable for reducing stream velocity and temporarily storing water during high flow events.

WILDLIFE and FISH MANAGEMENT

MA-15-14 **Project activities within or adjacent to riparian areas shall protect, rehabilitate, or enhance streams to provide high quality habitat for a diversity of native aquatic species.** Management indicator species for riparian areas are resident and anadromous salmonids.

Stable, diverse habitat for salmonids can be achieved with the following:

- Large wood: Diameter and length of woody pieces may vary according to the stream width and gradient; pieces larger than 25 inches in diameter are generally preferred. Large wood in the stream will provide a variety of habitat and nutrient characteristics.

- Pools: A primary pool every 5 to 7 channel widths in streams with less than a 2% gradient and every 3 to 5 channel widths in streams with a 2 to 8% gradient provides rearing habitat during summer low flows.

- Substrate: A well sorted variety of gravels, cobbles and boulders, with less than 20% of spawning gravels in fines (<1.0mm), and less than 25% embeddedness of cobbles in riffle areas provide salmonid and invertebrate spawning and rearing habitat.

- Floodplains: Stable, vegetated floodplains provide areas of slow water and refuge habitat during high flow events.

- Food source: Year-round input of leaf, needle, and insect material from a variety species provide a variety of food sources for salmonids and invertebrates.

MA-15-15 **Habitat rehabilitation or enhancement projects should be identified and evaluated in areas adversely affected by past events. Project proposals should consider long-term maintenance needs and should be monitored for effectiveness.**

MA-15-16 **Habitat for riparian dependent terrestrial species shall be protected, rehabilitated, or enhanced.** Factors to consider include microclimate, vegetation, and downed woody material.

MA-15-17 **Where designed to provide connectivity and dispersion, greater than 10 live, overstory trees per acre and 15 down trees per acre greater than 24 inches DBH should be maintained.** This also provide down woody debris cover for small mammals, amphibians and reptiles.

MA-15-18 **Habitat potential for cavity excavator species should be at least 80% of the potential population habitat in riparian areas.** (See *Forest-wide Wildlife Standards and Guidelines*).

RECREATION MANAGEMENT

MA-15-19 **Area management practices should result in a physical setting that meets or exceeds the ROS class of Roaded Natural.**

MA-15-20 **Developed recreation and dispersed recreation sites should be compatible with riparian dependent resource objectives.**

MA-15-21 **Projects to reduce safety hazards from dead, defective or hazardous trees in riparian areas should be evaluated to ensure adverse effects to riparian dependent resources are recognized and mitigated.** This includes trees currently in river or stream channels and standing dead trees adjacent to trails or other recreation facilities.

MA-15-22 **Water withdrawn from streams or lakes for recreation facilities shall have no adverse effects on riparian dependent resources.**

SCENIC RESOURCES

MA-15-23 **All design and implementation practices should be modified as necessary to meet the VQO of Partial Retention. In the event that unregulated harvest is necessary to salvage timber within the area, practices should be employed in a manner that seeks to achieve a VQO of Modification.**

TIMBER MANAGEMENT

MA-15-24 **No programmed harvest shall be scheduled.**

MA-15-25 **Salvage harvests should occur only when existing conditions are detrimental to riparian condition and riparian dependent resources.** (See *Forest-wide Standard and Guideline, Changed Environmental Conditions.*)

MA-15-26 **A riparian prescription shall determine if trees need to be felled to maintain or enhance riparian objectives, if trees may be felled to facilitate activities in adjacent management areas, and if felled trees should be removed from the area.** Riparian objectives are commonly met if yarding corridors through the area are spaced at least 200 feet apart.

MA-15-27 **Streambanks shall be protected by directional felling and suspending logs above streambanks adjacent to live water during yarding, and by using appropriate road design techniques where roads might impact streambanks.** On streambanks adjacent to dry stream channels, logs will be fully suspended and directionally felled where practicable. Where it is not practicable, streambanks will be stabilized following yarding activities, and prior to stream flows in the channels.

MA-15-28 **Silvicultural prescriptions for existing regenerated stands within riparian areas shall be designed to achieve riparian objectives.**

MA-15-29 **Silvicultural prescriptions should be developed for riparian areas affected by past harvest activities or catastrophic events to reestablish stands that provide a mixture of hardwood and conifer species similar to undisturbed sites.**

MA-15-30 **Application of fertilizer to the riparian area, and to live water should occur only when prescribed to meet riparian terrestrial or aquatic objectives.**

FIRE MANAGEMENT

MA-15-31 **Suppression strategies, practices and activities shall have minimal effects on objectives for water quality, aquatic and terrestial wildlife and plant species, recreation, and visual resources.**

MA-15-32 **Fuel treatment prescriptions should protect streamside vegetation and maintain the vegetation and woody debris necessary for channel stability.**

MINERALS AND ENERGY

MA-15-33 **Mineral management shall be compatible with riparian resource management goals. Aquifers and downstream resources shall be protected as well as the immediate riparian resource.**

LANDS

MA-15-34 **On lands considered for exchange a floodplain and wetland determination and assessment of impacts, with public notice shall be made. Acquisition of wetlands that may be of significant wildlife, fisheries or recreation values shall be encouraged.**

MA-15-35 **Special use applications should show compatibility with management area objectives before approval.**

FACILITIES

MA-15-36 **New roads should be planned to minimize effects on riparian areas. Projects should be evaluated as to which location will most likely meet riparian objectives.** Locating roads outside of riparian areas is preferred when possible.

MA-15-37 **Where stream crossings are necessary for access, a crossing location should be selected which will best meet riparian objectives.**

MA-15-38 **Construction and reconstruction of crossings or habitat improvements projects on fish bearing streams should allow for passage of both adult and juvenile fish during appropriate times of the year.**

MA-15-39 **Deposits of sediment (silts and clays) in detrimental amounts shall be prevented during road construction and maintenance activities, and during periods of road closures.** Road surface maintenance will use materials and methods designed to minimize sediment and deleterious chemicals.

MA-15-40 **Temporary roads constructed to facilitate rehabilitation and enhancement projects shall be compatible with riparian objectives, and should be closed following project completion.**

RANGE MANAGEMENT

MA-15-41 **Domestic livestock grazing should not be permitted.**